Panamá Viejo: An Analysis of the Construction of Archaeological Time in Eastern Panamá

By

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Abstract

The purpose of this dissertation is to demonstrate how different methods for ceramic classification can produce different chronologies, ultimately creating different historical interpretations or histories. To this end the most widespread methods for building chronology in the Americas, the "taxonomical" and the "modal" methods shall be compared using the recently excavated ceramic sample from Precolumbian Panamá Viejo, one of the largest archaeological sites in Panamá. It is also intended to review different conceptions of history and time because they are the theoretical background from which chronologies are built and thus have a direct impact on these archaeological histories.

The site of Panamá Viejo and the Eastern Region of Panamá, where it is located lack a Precolumbian ceramic sequence. Building a chronology for Panamá Viejo affords a good opportunity to address the problem of both the local and the regional chronologies, and also to compare both methods in every step of the chronology building process, underlining the assumptions and consequences, and the strengths and weaknesses of each method. Ultimately, it is hoped this thesis could show that both methods can be used complementarily to solve different problems, fostering a more comprehensive synchronic characterisation and a finer chronological division of ceramic assemblages.

The two classifications revealed a homogeneous ceramic assemblage where continuity rather than change is the norm. It also yielded two chronologies for the site, one taxonomical with one cultural phase, and one modal with two cultural phases. These in turn gave rise to different historical accounts about the kind of behaviour that produced the pottery deposit in Panamá Viejo, accounts where the difference is mostly of chronological resolution. The new ceramic data coupled with that from burial contexts helped rewrite the history of Panamá Viejo, emphasising the longevity of occupation at the site by a possibly stable socio-cultural group from the mid-first millennium AD until the European Conquest.

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Introduction

The concept of time is an integral part of archaeological thinking. Chronologies are one of the tools used to order events in time, in a sequence understandable for historical analysis. The different conceptions of time are the theoretical background from which chronologies are built. The manner in which archaeologists think of time and the methods employed in building chronology have a direct impact on the histories produced.

Chronologies may be built through different means, such as using artefact typologies. Pottery is frequently used for this purpose as it is one of the most frequent remnants from ancient societies, as well as one of the most resilient, surviving for centuries where other materials perish (Raymond 1995:224-225). A critical analysis shall be carried out of the two most widely used methods to classify pottery, which have dominated archaeological discussions in the Americas for decades, the taxonomical and the modal analytical method of classification. It is contended here that both methods create different classifications and therefore different chronologies, which give rise to different historical interpretations; that both methods start from completely different perspectives that in the end measure different things, and therefore produce differently scaled histories; and that ultimately they are not mutually exclusive but rather complementary and how a fuller approach can be reached by using a combination of the best features of both.

To explore these issues the recently excavated ceramic sample from Precolumbian Panamá Viejo will be used to compare the chronologies built through both methods, and to explore how they can create different historical accounts of past societies. Panamá Viejo, located in the Eastern Region of Panamá, is one of the largest archaeological sites in the country. Both the site and the region in general have no Precolumbian ceramic sequence and only a rudimentary chronology. Thus, building a chronology for Panamá Viejo affords a good opportunity to address the problem of both the local and the regional chronologies. Simultaneously, constructing two classifications of the same material will allow for the study of the reasoning behind every step of the classification methods and how they create the chronology, a process that can usually be taken for granted. A critical analysis of both methods will hopefully underline the assumptions and results, and the strengths and weaknesses of each. In the end, it is hoped this debate could also prompt Panamanian archaeologists to a lively and long overdue discussion on theory and methods.

The thesis begins with a synthesis of past and current archaeological approaches to time, as well as an overview of the ways in which western science approaches the matter, from the earliest views on cyclical and linear time to the latest non-linear dynamic models, and how these mould archaeological histories. Chapter 2 presents a revision of both methods of classification and a description of how they operate, and of the assumptions behind both. Chapter 3 will deliver a detailed introduction to the larger archaeological background of the area in which Panamá Viejo

is located, outlining the most important archaeological investigations in the Eastern Region of Panamá, especially the ones which offered material related to that found at Panamá Viejo. This chapter will provide a synthesis of the extant pottery classifications found all over the region and of the archaeological picture in general. Other sites in the area but only indirectly related to Panamá Viejo will be discussed in Appendix 2.

Chapter 4 will deal with the smaller scale of the cultural and natural background of the site itself, discussing its history, at least in the period immediately before and after contact with the Spanish, and that of the native inhabitants, called the Cueva people (most of this information was gathered from the ethnohistorical record). A detailed description of the site as it stands today, the pottery sample, and the other recent discoveries made by the new, ground-breaking archaeological research will follow in chapter 5. Subsequently, the taxonomical analysis of the Panamá Viejo pottery sample will be carried out in chapter 6, and the modal classification will follow in chapter 7, together with their concomitant chronologies.

Chapter 8 deals with the formation of modal clusters from the pottery modes obtained in chapter 7. It proposes a ceramic sequence for Panamá Viejo and outlines the relationships of the local assemblage within the wider Eastern Region and Intermediate Area territories; it also deals, in a cursory fashion, with issues theoretically related to modal analysis, such as agency theory and temporality. Chapter 9 will present the actual building of different histories for the formation of the Panamá Viejo pottery deposit based on the two different chronologies achieved, taxonomical and modal, as well as how these histories fit with the extant history of the Eastern Region.

This thesis wishes to foster a rediscovery of the archaeology of the Eastern Region, one of the oft forgotten parts of the Panamanian past. The site of Panamá Viejo provides ample opportunity for this, and through the innovative work of its new guardian, the Patronato Panamá Viejo, the stage is set for the future exploration of the site and the region. This non-profit organisation is charged with the conservation, investigation and development of this most prominent of Panamá's archaeological treasures. One of its aims being the transformation of Panamá Viejo into a major social sciences research centre, it is the ideal base from which to launch a revival of the archaeology of the region, with on-site laboratories and other infrastructures to facilitate the endeavour.

There is also the aspiration to encourage archaeologists in Panamá to consider alternative methods or approaches to view and construct history. It is time to revise archaeological methods and assumptions about how histories are actually built, about how the tale is told. Too often theoretical and methodological considerations are eschewed in favour of more practical manners, such as budgets and tight schedules. The histories created as archaeologists will influence how the public – who owns and is the recipient of this knowledge – thinks about the past and the

ancient inhabitants of Panamá. It is only fair that the utmost is done to create interpretations of that past that are carefully and thoroughly thought out, by being vigilant of the very assumptions and methods used to create those histories.

Chapter 1
Time

So the universe is not quite as you thought it was. You'd better rearrange your beliefs, then. Because you certainly can't rearrange the universe.
(Asimov, I. & Silverberg, R. Nightfall, 1990).

Todo es según el color, del cristal con que se mira...
Cuando es de noche allá en el Japón, por acá todavía es de día, Señor...
Esta vida, es como una pintura, cada cual ve el color que le ayuda...
Todo es según el color, del cristal con que se mira...
(Según el Color, Felix Hernández, 1977.)

Introduction

The concept of time is an integral, inseparable and indispensable constituent of archaeology, as past societies are archaeologists' main arena of action. Time is one of the basic "dimensions" of archaeology, along with space and the formal dimension as defined by Spaulding (1960). The building of temporal sequences – chronology – is essential to bestow order to past events, an order understandable in the "post-modern", and until recently, predominantly male, middle class, western archaeology. Chronology becomes thus "the science of the subdivision and measurement of time by means of which order and clarity are introduced into the sequence of historical events" (Jolles 1999:49). Archaeologists can see each object or feature as having a temporal attribute, its "date", an objective and quantifiable universal scale according to which everything may be related and compared. Chronology provides a framework within which the traces of the past may be situated and ordered (Shanks and Tilley 1987:119).

In environments where most archaeological evidence rapidly decays, such as Panamá's tropical climate, archaeologists usually resort to pottery, one of the most durable, pervasive and conspicuous remains to build these chronologies. Moreover, pottery can be one of the media on which change in formal content is best followed through time and space, in the subtleties of its almost limitless potential to display variation. Thus, working through different methods for the classification of pottery, radiometric dating, and the ethnohistorical record from European contact, the chronological sequences for many non-literate societies in the American continent have been constructed.

This dissertation shall argue that the methods archaeologists utilise to classify pottery and thus produce chronology – which are grounded on concepts about science, history, archaeology and time – affect the histories these chronologies beget. Thus in the following chapters two specific methods of classifying ceramics will be analysed, the "taxonomical" and the "modal" classification systems, of widespread use in the Americas. Their utilisation and results have directly influenced the way chronologies, and therefore, American Precolumbian histories have been built over the last century. How and why 20th century archaeologists, especially in Panamá, think about, create and use time will be examined. To this end, the Precolumbian pottery sample

recently excavated in the site of Panamá Viejo – located in the Eastern Region of Panamá – will be used and in effect, two different chronologies of the site shall be achieved. The histories archaeologists build are based on how they conceptualise history, time and how to practise science in general, and they in turn ultimately influence the public's perception of the past (Custer 2001:22).

On a closely related subject, archaeological thinking has been interested in attempting to define the different concepts of time of past societies, and the diverse time scales through which different kinds of processes, natural and human, may be better understood. Those subjects have been dealt with in an extended manner in the archaeological and anthropological literature and, fascinating topics as they are, they lie beyond the scope of this thesis. The literature on the subject also provides an interesting view into the minds and questions asked by modern scientists (see Bailey 1983; Bender and Wellbery 1991; Bradley 1991; Braudel 1969; Brower 1993; Fabian 1983; Fraser 1968; Gell 1992; Giddens 1984; Gosden 1994; Leone 1981; McGlade 1999a, 1999b; Morphy 1995; Parkes and Thrift 1980; Shanks and Tilley 1987). Past people's interpretations of time are commonly unknowable so the use of modern time concepts to order the past is sometimes mandatory. This is especially true when dealing with non-literate societies like those in Precolumbian Panamá, where the scarcity of evidence makes it almost impossible to obtain an "emic" perspective (Sharer 1994:viii).

Thus, the issue of time will be addressed through a review first of the manners in which history and time have been generally seen by the western scientific community (cyclical, linear and non-linear). The pros and cons of these concepts will be expounded for they lay at the core of the chronology building process. The rest of this dissertation will deal with actually building time itself through a revision of both the aforementioned classificatory methods.

Western Science, Archaeology and Time

The last two centuries have witnessed a change in approaches to time, now a central concern in disciplines ranging from astrophysics to anthropology. Social science specifically has modified and evolved its views and explanations of change within cultural structures and how they evolve diachronically through different long, medium and short-term processes. Explanations of societal change have occupied the minds of social thinkers probably since the beginnings of human thought, but have only become subjects of rigorous studies since the Enlightenment and now form the backbone of many social disciplines including Archaeology (Dark 1995; Johnson 1999). Underlying these explanations of change is the concept of history itself, or of time, acting as a background or world-view on which to situate these explanations. Speaking in broad terms it may be said that western science has distinguished or considered three distinct notions of time: cyclical, linear, and non-linear time.

Classical thinkers favoured cyclical time (Gould 1987; Trigger 1998). During and after the Enlightenment and directly influenced by the Judaeo-Christian linear tradition – from Creation to Armageddon – the idea of linear time or linear history was adopted, and it came to be entrenched in western scientific and public discourse. It has usually transpired then, that as western scientists have headed the study of past societies thanks to western world hegemony, they have naturally applied to those studies western principles and ideas. Born out of the Enlightenment, positivism, Marxism, evolutionism, culture history, among many others, were used as epistemological tools to understand and explain phenomena the world over, as western lay and scientific audiences were increasingly exposed to them during the expansion of colonial possessions (Fabian 1983; McGlade and van der Leeuw 1997; Murray 1999a; Smith 1991; Trigger 1998). Thus since the late 18th century most European social sciences and their explanations of social change were embedded in a conception of time and history as linear, with a strong evolutionary flavour. This is not a drawback in itself, yet the linear concept of time brought some ideas, to be discussed below, that although not inherent to it, accompanied it frequently and created a sometimes-skewed perception of past and present societies.

Moreover, within this feverish intellectual milieu born in the 18th-19th centuries, and to accommodate the enormous quantities of information being collected by European explorers, of primacy was the urge to order and categorise everything into neat, easy to comprehend, homogenous classes. It was all part of the spirit of the Age of Reason, the attempt to create an all-inclusive taxonomy representing order in time, space and content that was almost developed into a science itself and is still used today. Taxonomy[1] became an almost indispensable tool of the natural sciences and the social sciences were soon to follow the example. This emulation went even further, and the urge to establish social science as "real science" with its very own intellectual baggage witnessed resolute efforts at establishing a single set of principles to explain the entire spectrum of the human experience. Generalisation was often used as an attempt to build human behaviour laws, and after all, taxonomy is a form of generalisation (see for example Gifford 1976:1; Fritz and Plog 1970; Tainter 1988; Trigger 1998:127; White 1975). "The predominant evolutionary perspective underwrites a strong theoretical sense of common origins and has led archaeologists to look for, and stress, human universals, both physical and cultural. At first sight, this conflicts with the importance of observed variations, and this apparent conflict has led to a yes-or-no debate on the existence of such universals, for example in material culture. The debate has precluded a more nuanced position, which would entail investigating whether similar processes might underlie very different results" (Van der Leeuw 1994:135).

[1] In archaeology it has developed to encompass the temporal, spatial and formal dimensions, expressed in terms of stages, phases, contexts, sites, cultural regions, wares, types, varieties, etc.

For example, in archaeology's case, for several reasons beyond the scope of this dissertation, it has been divided by sometimes-petty epistemological and methodological discussions, which polarise into broad categories: dividers vs. lumpers, essentialists vs. materialists, empiricists vs. rationalists, optimists vs. pessimists, human lawmakers vs. extreme contextualists[2]. However, being born and bred in the West, be they culture-historians, processual or postprocessual, many archaeologists have utilised a linear time concept in dealing with human affairs. It can be said therefore that in general, the social sciences have ever since the Enlightenment thought of time, and more importantly of history, as linear, and used methods such as taxonomy and generalisations in their quest for the explanations of social phenomena.

Thus, what follows is a brief review of cyclical and linear time concepts and of the advantages and disadvantages of linear time and how they have affected archaeological interpretation. Non-linear time concepts, a recent addition to archaeological epistemology, will be dealt with later in this chapter.

Cyclical Time

Historical cycles or periods, see history divided into disconnected episodes, each episode recognisable and understandable when enough information about them is discovered, separated from others by so-called "dark ages", of which less is known. As Collingwood puts it, "each period is an island of light in a sea of darkness, thus the cyclical view of history is a function of the limitations of historical knowledge" (Collingwood 1927b:445-446). It is a case of history repeating itself, in varying forms but with the same structure every cycle (see also Gould 1987 for a thorough, enjoyable discussion on the subject). The idea of the cyclicity of history is now in western scientific circles – for better or worse – more or less a historical curiosity.

Linear Time

The idea of the longevity of Earth and humanity and of biological evolution over millions of years completely changed the concept of cyclical time, and conjoined with the western Judaeo-Christian tradition created linear history or time. Ever since Darwin, linear time has dominated the conceptual arena. Time is recognised today as being linear, proceeding from the present towards the future, a self-evident truth. However, being born in the Enlightenment, an era of growing, overpowering and uncontested western hegemony, linearity collected some dubious intellectual baggage (Johnson 1999: 162-165).

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[2] Most of these schools show the recurring tendency to apply one methodological approach to every aspect of past life; "a singular all enmeshing theory to construct models of social change" (McGlade and Van der Leeuw 1997:4). They "each superimpose a single theoretical lens through which the data are to be viewed", pretending to explain the entire range of the human experience from their own perspectives, frequently shunning other ideas. "Epistemological purity is deemed eminently preferable to any attempts at trans-disciplinary or integrated frameworks" (McGlade and Van der Leeuw 1997:3).

Even if Darwin's original vision or intention was otherwise (Trigger 1998:60), several authors claim that permeating most scientific studies since then, the concept of linear time has been erroneously joined with evolution as unidirectional, as progress. In the case of the social sciences, it has meant that "modern" western societies were – and sometimes still are – seen as more "advanced" than the rest of the world. It was often a self-congratulatory and imperious stance assumed by social scientists and consequently their audiences, boasting a single, comfortable trajectory proclaiming the developmental superiority of the contemporary western world-view, and anthropology and other social sciences were used as tools to further the colonialist cause. They required time to accommodate the schemes of a one-way history (linearity): progress, development, modernity, and their negative mirror images: stagnation, underdevelopment, tradition (McGlade 1999a, 1999b; also Fabian 1983; Gould 1996; Hodder 1993:280). The concept of linear time can be turned into history with a purpose, a destiny, with humankind – or "western-kind" – in the centre stage.

Some authors argue that while western science, and archaeology in particular, have been working within a linear paradigm plagued with these vices, they have often done so unknowingly (Bailey 1983:165; Leone 1978:33), being so accustomed to thinking about time in a linear manner that it is hardly given any thought, usually being taken for granted (Shanks and Tilley 1987:118). David Clarke has had some insight into this problem when saying that "archaeological entities, processes and explanations are bound by metaphysical concepts of time and space...Time and space are relative to some observed system, and a key step in archaeological interpretation is a model approach toward the meaning of time and space for the inmates of particular systems...The exposure of archaeological metaphysics to critical appraisal allows us the self-conscious capacity to consider the possibilities of altering or rejecting current disciplinary concepts in favor of some alternative forms" (1973:13). Before discussing an alternative form of conceptualising time, two of the most common problems associated with the linear time paradigm will be reviewed, the idea of progress with its effect on the periodisation of time, and the elimination of time.

Progress, Periodisation and Change

The idea of progress has been a long-standing view in many scientific fields, including archaeology. "It is a deep prejudice with an ancient pedigree and a subtle power, even over those who would deny it explicitly" (Gould 1996:189). At its simplest, according to Collingwood, it implies that throughout history humankind has dealt with the same set of problems, and has been solving it better and better. He exposes the cyclical and linear argument when saying that "not one of the supposed ideals, histories and phases through which history moves is any better, or any worse, than any of the others. To call this, in a derogatory sense, primitive, or that decadent, is to betray a merely personal predilection...And the error lies when assuming that the 'decadent' people were trying to do the same thing as the 'advanced', but were unable to do it so well. This theory, it may be said without hesitation, is always false" (Collingwood 1927b:439-442).

This erroneous and unfair comparison is a widespread phenomenon in Latin America, where the Precolumbian period is often seen by the general public as an uncivilised age compared to the Colonial Period (Corrales 2000; Rovira 2002:11). This vision of history has been sadly promoted and perpetuated by earlier generations of archaeologists and historians, evident even in secondary school history books. Adjectives such as "advanced, civilised, noble" are used when referring to the Spanish, while words such as "primitive, savage, barbarian" refer to the indigenous populations (see also Hulme [1992] for some of the reasons behind this dichotomy). One of the most important Panamanian historians of the 20th century had this to say about the conquest: "In Pedrarias and his captains confronting the Panamanian Indians, archaic, elemental, inconsequential men without history or fixed geography, the blow was heavy and violent" (Gasteazoro 1977:17, translation by the author). In a very recent article criticising the war in Iraq, Alvaro Vargas Llosa, a very influential Latin-American writer casually states how while the Middle East became the cradle of civilisation, America was just a field for bison (Vargas Llosa 2003). It is an attitude entrenched in both the lay and scientific public. Even in everyday conversation, the word "Indio" (Indian) is still used as an insult.

Earlier generations of social scientists placed periods and styles within a linear narrative plot or structure with a beginning, middle and end. Yet "when we cut history up into sections and say 'here begins classical culture, and here it ends' we are talking not about history but about the labels we choose to stick upon the corpse of history". Collingwood calls the "periods" of history "an arbitrary fabrication" (1927a:324). Chronology may then be thought of as taxonomy applied to time. But although the word "fabrication" can carry a derogatory sense, it is not meant here in this way. Periods are fabricated – like any other taxa – to order events in time and make history understandable to its writer and the audience.

When these taxa – phases, periods, stages – are applied to order linear time, the graphical nature of the typical chronological table can render the past static, divided into stable periods, where change is unexpected, only occurring in sudden short bursts before reverting back to normality, and at least in America, Lyman, O'Brien and Dunnell (1997) see this as the result of essentialist thinking that has dominated Americanist archaeological discourse for much of the 20th century. The conceptual danger of the idea of progress lies in assuming that the later periods are somehow better and improved. Periods and phases are a tool, not a cultural reality, and like any other tool or technology, they are not good or bad. They can be used to achieve a more accurate and clearer understanding of the past, just as they can be twisted to serve the cause of political, nationalist or racist interests.

Phase based chronology organised the considerable variation observed in the archaeological record and eased communication among archaeologists through a set of common terms. But it

can impose a general view that culture change was step-like, with periods of stability separated by short periods of change. Thus periods follow each other, and in a progressive light, things get "better" all the time. Improvements, as cultural change was seen, only happened during rare and separated episodes that interrupted long periods of stability that could also be known as "stagnant". "When the entire archaeological sequence of an area is encompassed by a small number of phases[3] it is exceedingly difficult to say anything about rates or patterns of change...this is what leads change to be conceived as periods of rapid change at phase boundaries, separated by long periods of stability" (Plog & Hantman 1990:440-441). This illusion could be the result of the misinterpretation of chronological tables, which of necessity must show discrete and successive periods of time.

It does not necessarily follow that phase-based chronology imposes this view. It only suggests it due to its graphic presentation, but other interpretations can be garnered from these tools, precisely when it is kept clearly in mind that they are only that, tools. "The trap that former generations of scholars fell into was to allow these constructs to determine the way they thought about the past, rather than using them merely as one means of giving shape to the evidence" (Renfrew and Bahn 1996:108). Needless to say, only because history occurred in a linear sequence of events – that is, one event followed the other and so on – and it seems linear when placed on a chronological table, it does not mean that it *must* have happened in that exact way, or that later developments were better and inevitable versions of past ones, as easy as it is to fall under that illusion.

Not withstanding this precaution, frequently the linear concept of time has fostered a vicious circle of inference, where notions of time are reified by the effect archaeological methods have on the data. The ceramic sequences built for Eastern Panamá show this perfectly, with the majority of them built from a taxonomical classification and Fordian style seriation (Ford 1962; O'Brien and Lyman 1999a). Ordering everything into neat pigeonholes has produced a segmented picture of Panamanian history, with a very stable sectioning of history into periods, with sudden change in between them, spanning thousands of years, from simple to complex. But this intermittent picture of diachronic change is produced precisely when typologies are situated on a temporal chart, and lines are drawn wherever one type pre or supersedes the other; wherever the battleship curve dies and another starts; whenever one feedback loop ends and another begins; it is only a tool, a picture, that can get mistaken for reality, and taken as a law. This kind of representation of change permeated Eastern Panamanian archaeological literature incessantly, as most of the research in the region was carried out even before the New Archaeology set in. The recent works – reviewed later – of Richard Cooke and Warwick Bray among many others, explore the area without this progressive bias.

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[3] This is the case of Panamá's Eastern Region, whose chronology is split into a small number of long-lasting time

Therefore the western, linear conception of time with an idea of progress serving as theoretical background on which to build chronologies with taxonomic tools, can smooth out differences in diachronic social processes, and give an impression of diachronic qualitative improvement. Archaeologists and historians alike tend to forget that only because in a lot of societies things "complexify" with time, it does not follow that this process is inevitable. And this is one of the most frequent errors of linear thinkers.

The Elimination of Time and Analogical Approaches

Another common criticism against a linear perspective is that it can affect how the entire spectrum of processes and phenomena at work in human societies is seen. By utilising modern ethnographic observations of non-complex societies, and building analogical models of past cultural behaviour, cultural processes can be seen as timeless, as endlessly and regularly occurring phenomena. This has been criticised as being derived from "uniformitarian" ideas, stemming from geological and biological studies (Bailey 1981 and 1983; Brower 1993). Uniformitarianism as applied to the social sciences has a simple idea: the range of societies existing today provides examples for most, if not all, societies in the past. Therefore, to present must be known first to understand the past, which fostered the use of illustrative analogy, encouraging the extensive application of ethnographic description to archaeological materials (Brower 1993:239). Gosden sustains that "the closer we get to the present, the greater is the temptation to shape the evidence into forms of life with which we are familiar today" (1994:26).

Therefore the possibility always exists that by synthesising sources from widely separated temporal contexts and potentially collapsing variability into homogenised holistic models (like types), stability will be assumed. The elimination of time and the emphasis on cultural homogeneity through time, both of which may be a result of preconceptions (uniformitarianism) and methods of interpretation and analysis (taxonomy), undermine variability in time and space, and may inhibit our ability to address change. When using historic connection to aid in the selection of analogues, persistence and continuity cannot be assumed (Brower 1993:244-246). Hence explanations and concepts regarding the study of contemporary behaviour (generally a study of short time-scales) may not be appropriate or sufficient in dealing with the vast time-scales that permeate much of the prehistoric record. This is one of the many problems with direct historical analogies. The converse, of course, also applies, that concepts applicable to long time-scales may not be suitable for the study of contemporary behaviour, or processes that span relatively short amounts of time.

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periods, due to a dearth of archaeological research.

Most archaeologists, though, agree that without uniformitarian assumptions the past would simply be beyond apprehension. For many societies that have left very little short of a few potsherds and stone implements, to forgo analogy would render any attempt at explanation impracticable. Gosden affirms that in today's global form of life, the questions of large narratives and generalisation to do with human unity and diversity must be posed and answers can be attempted, yet caution is in order lest generalisation, on the basis of aspects of the Western way of life as the epitome of the linear development of civilisation, runs amok. In building global models and seeking general answers, there is a danger of assuming not only progressive complexity, but that present Western processes and relations are inherent to human nature, leading to the conclusion that other cultures are inferior when in fact they are only different (1994:165). The pros and cons of using analogies must be weighed on a case by case basis.

Recapitulation

For all the disadvantages discussed, the linear notion of time has served its purpose as a tool facilitating the understanding of the past. Chronological tables and their linear order offer an efficient means of synthesising usually very large amounts of information. Their synthesised format provides a workable understanding of the sweep of time, especially of the long-term process with which archaeology is usually, of necessity, so concerned. Even if the chronological table seems somewhat static and difficult to modify once its stages and phases are entrenched in the minds of both scientists and public, there is usually no other, more efficient graphic way in which to present diachronic process at work. Furthermore, this supposed static nature of linear chronology can be exaggerated by the detractors of linear time, as proper archaeological work has in some areas constantly revised its assumptions and chronologies with the inclusion of new periods and the exclusion of obsolete ones. Point in case is the extensive revision the chronology for the Central Region of Panamá has undergone (see Tables 3.2., 3.3. and 3.4.), with the improvement of absolute dating methods and the acquisition of more detailed archaeological information, just as in many other parts of the world (Mesoamerica for example). The problem still remains in poorly studied areas such as the Eastern Region, which only have a rudimentary chronology still loaded with the problems associated with nineteenth and mid-twentieth century linear thinking.

It is not intended here to say that linear time, taxonomies and generalisations are "incorrect" ways of doing science. Tools are not good or bad, they are just suited to different problems; the uses to which they are put are the ones subject to judgement. They offer an expeditious and time-tested path for the explanation of social phenomena. However, for all their advantages at systematising the data or easing communication among archaeologists in different areas, these created classes or taxa can also reduce and simplify difference and background noise creating a skewed image of reality by emphasising homogeneity rather than heterogeneity. "Problems with establishing a fine-grained chronology made it difficult to observe change as it occurs, often forcing

archaeologists to lump time into 'horizons', and thus contributing further to an emphasis on statics...over dynamics..." (Van der Leeuw 1994:135). The problem arises when these constructs or tools for understanding the past, are mistaken for the past (Lyman et al. 1997:159; Renfrew and Bahn 1996:108). The critique here is not that these theories and methods are wrong, but that our interpretations of their results may lack the sophistication and comprehensiveness needed to grasp the limitless variety of the human world.

As for generalisation, Bailey has suggested that archaeologists should endeavour to theorise different sets of principles, each valid relative to its particular scale of focus. Answers depend on the colour of the theoretical crystal used (some practitioners pretend to remove the crystal altogether in an attempt at absolute objectivity which is – one would think – unattainable). He suggests there can be no absolute temporal-spatial-qualitative frame of reference, only a relative frame of reference. "While the concepts that work within these different frames of reference should be mutually compatible, they cannot be transferred without modification from one frame to another" (Bailey 1981:108). One cannot compare pears and apples. In other words, different approaches or tools are not at odds with each other, they are just suitable for different situations or questions. There must be a "happy medium" in interpretation, everything interpreted according to its own rules.

Some authors claim that the linear paradigm and its progressive dangers, or as they call them "developmental constructions, can then be marshalled in the service of the "seamless narratives" which provide the key to understanding, and hence to the interpretation of the archaeological record. The rather obvious fear is that, without these narratives, archaeology will fail in its self-appointed role of reconstructing long-term history" (McGlade 1999b:142). This history, they state, is frequently written for political, racial, or nationalist interests, or simply to promote a progressive developmental view of human social and cultural evolution (McGlade 1999b:159). "Linear world-view precludes or misrepresents the evolutionary potential of all natural and social systems - particularly the propensity of complex systems to generate emergent unanticipated behaviours" (McGlade and van der Leeuw 1997:14). Although these criticisms can be true, especially the last one, it can also be said that they are hardly inherent in the linear concept of time, as it does not necessarily have to be so reductionist, over-generalising and overly concerned with progress, as seen above. Although linear thinking often presents problems the manufacturing of chronology with its linear periods does not necessarily have to conclude with such biases. Therefore these accusations, which in some cases such as Panamá's may be warranted and necessary, can also contain a rather overstated tone.

History has not always been blindly written in a linear-progressive light. In the words of Evans, "postmodernist critics of linear notions of time ignore the fact that historians have long been accustomed to employ a variety of concepts of temporality in their work...Nor can working

historians be shocked by the notion that there are different kinds of periodisation for different kinds of history" (1997:153). Still, and especially in literature intended for the lay public, a strong linear flavour can be detected in much of archaeological/historical literature. Many popular writers allude to and still use the old prejudices against the Indians to aggrandise and promote the myths of the modern Latin American Republics, invoking modernity, progress and even "whiteness" as the destiny of these nations (Corrales 2000).

The linear paradigm has been particularly useful from the "evolutionist" point of view. Through the last three centuries it has itself "evolved" from a purely linear progressive stance that saw history as the unfolding, predetermined destiny of humanity, to a more sophisticated idea that regards the linearity or directionality in history as a general trend towards greater social complexity (Trigger 1998:1). This new evolutionism thus includes the "widespread abandonment of the concept of progress on the grounds that it is inherently subjective and value-laden; the increasing integration of concepts of adaptation into sociocultural evolution; and the abandonment of transcendental teleologies" (Trigger 1998:12-13).

Bailey's time perspectivism.

The problem of chronological resolution is a constant one in archaeology, for it seems unlikely that prehistorians will be able to work with blocks of time much less than 50 years. How can the development of particular societies be measured using such widely separated intervals between observations? Individual acts such as making a pot or burying a monarch may be detected, but they are set against a very coarse chronology. Archaeologists can recognise, say, environmental changes at one larger scale, and the behaviour of individuals at another, smaller scale, but still probably lacking the chronological precision that will permit the investigation of human intentions (Bradley 1991:217).

Bailey introduces the concept of time perspectivism, in which differing time-scales are needed to study different features of behaviour, requiring different sorts of explanatory principles (Bailey 1981:103). In a critique akin to that seen above towards the elimination of time, Bailey insists that prehistoric archaeologists are attempting to account for the very faint signals of societies for which there might be no ethnographic parallels. Archaeologists are working with accounts of human action, which have been developed for ethnographic and ethnohistoric scales, therefore, the temporal scale of archaeological theories must be adapted with the temporal scale of the evidence. Processes that are distinguishable at one time-scale, are not detectable at another, shorter or larger scale, and he suggests they cannot be measured with the same ruler. "Stories with the texture of individual action taking place against a backdrop of vast impersonal forces of climate and population" are now untenable, says Murray (1997:450).

A typical sample of archaeological data, large enough for reliable interpretation, often represents a palimpsest of activities that can have a diachronic range of anything from several months to several hundreds or thousands of years. Very often these deposits represent the activities of large aggregates of behaviour, reflecting average tendencies, which persisted over longer or shorter periods of time (Hodder 2000:21). This coarseness of resolution is further intensified by the margins of error in radiometric dating (Bailey 1981:109-110), and taphonomical processes that affect interpretation of events. Of prevalence then, is the minimum chronological unit over which action (or at least the results of action) can actually be observed. In many cases this minimum chronological unit represents thousands of years, placing some strong constraints on the kinds of histories archaeologists can build (Murray 1997:450-455). The issue of this minimum unit of observable behaviour will be further explored in the following chapters.

Bailey acknowledges that the nature of what is to be explained and how it is to be explained should vary according to the quality and quantity of specific archaeological records (Murray 1999c:12-15). Depending on the research questions, and the availability of evidence, time concepts and scales are built and used, for different time scales operate over different time spans, as demonstrated by the different processes and conceptions of time mentioned above. Therefore, to conclude this section, time perspectivism can be perceived as a useful concept to bear in mind when attempting to build time and as a sensible theoretical way to see the data. Theories must be adapted to the data and not vice versa. Time perspectivism allows for building the necessary blocks of time appropriate to the evidence. And when all archaeologists in a region use the same time scales (the same tools to build time), integration of data from wide areas is sensible and feasible. Thus if different methods of building chronology create different time scales, as will be seen below, it is imperative that agreement on method is achieved, otherwise, the end result can be a comparison of apples and pears.

Non-linear History

Even until very recently, Fukuyama was proclaiming the end of history was nigh (1992) in the best of the linear paradigm at its worst. Yet a transformation in the way scientists in general see time and the diachronic change of social and biological processes is taking place, with the so-called non-linear model based on the recently developed field of non-linear dynamics. It applies concepts similar to those Gould applies to Palaeontology and Evolutionary Biology (linear evolution vs. decimation and survival 1989; 1996) in the social sciences. Its supporters (among others, DeLanda 1997; Murray 1999a; McGlade and van der Leeuw 1997; McGlade 1999a, 1999b; Olivier 1999) contend that human societies are inherently unstable, unpredictable, non-linear, dynamic systems (see also Kolata 1992:68-69). Therefore, no general law of behaviour or change can apply to them, and this is precisely why, they say, most of the archaeological science practised to this day is unsuitable to adequately describe and explain human history. Although

offering a temptingly fresh and original approach towards time, these claims seem to be somewhat exaggerated in asserting that most human history has been poorly narrated and entirely misinterpreted. Hence what follows is first an examination of what the new paradigm claims and then an assessment of its strengths and weaknesses.

Supporters of non-linear dynamics contend that these destroy historical causation as a linear, progressive unfolding of events and that any complex system is irreducible, being more than the sum of its component parts, precluding any reductionist, simplistic theoretical framework; this is especially true of societal systems, which are governed by feedback and coupled to random environmental forces (McGlade and van der Leeuw 1997:14). The long-term history of human societies becomes not a finely spun homogenous fabric, but punctuated by a sequence of phase changes as the result of both conscious and unintended actions. Such discontinuities are in fact thresholds of change, where the role of human agency and or idiosyncratic behaviours assume paramount significance in the production and reproduction of societal structures (McGlade 1999b:152, see also Dobres and Robb 2000a). Individual choice and contingency acquire supremacy in non-linear explanation of change. It becomes a history, they claim, unlike any other built in the past, whose goal was always the human race and its "improvement". It is a history without a purpose, destiny or an "end".

They would argue for a world without universal truths, inscribed by the capricious and the provisional, and their ambiguous relationship with those deterministic, irreversible aspects of evolution. History is in the final analysis, a plurality of times – both continuous and discontinuous, and the product of contingent and deterministic forces. Social-natural co-evolution, they state, with its intrinsic instabilities is the clearest manifestation that we inhabit a non-linear world (McGlade 1999b:158-159).

Non-linear systems

Non-linear thinkers argue that many systems, social or natural, show behaviours that, while superficially resembling disorganised states, on closer inspection reveal subtly ordered structures; what appears erratic and unpredictable in reality is a highly structured form of disorder (McGlade 1999a; McGlade and van der Leeuw 1997:8). Highly irregular fluctuations (often dismissed as environmental noise) are manifestations of deterministic chaos; chaotic behaviour is a property of, among others, purely deterministic systems, i.e., systems unperturbed by extraneous noise (McGlade and van der Leeuw 1997:12). If stochastic behaviour is "lawless and irregular" and deterministic behaviour is "rule by exact and unbreakable law" then chaos can be defined as lawless behaviour governed entirely by law" (McGlade 1999b:157).

Non-linear dynamics try to explain the unpredictability of a system. Its defenders claim that in human societies, as unpredictable systems, change is ever increasing, and ever diversifying in

unpredictable directions. Change and the unpredictability of human systems rely on several factors from within and without. From within, by being composed of human beings (and their social structures), which are highly unpredictable entities. From without, unpredictable environmental influences do introduce change into human systems, as these societies live and interact in the landscape. Change can also be introduced from contact with other human societies, even if the role of diffusion can and has been highly exaggerated.

Human populations (as dynamic systems themselves), which are affected by discontinuities and perturbations, constantly alter their behaviour and hence affect the phenomenon itself in a self-reinforcing manner (positive feedback), rendering the potential for social transformation as intrinsic to the system. What needs to be explained is stability rather than change (McGlade and van der Leeuw 1997:19-20; Cowgill 2000:58). This seems to be they key idea of non-linear theorists.

According to what temporal, spatial or formal scale is used, a given social structure can display an apparently coherent picture. But upon closer examination – at a different perspective or scale –, this ordered society or system will be seen as composed of unstable entities, which can introduce change at any given moment. Nothing really "is" at any moment, rather, things are only in a state of changing from one to the next, especially when dealing with groups of people. Why are humans so unpredictable and non-linear, and why is the potential for change so high? Because human beings are not mindless drones guided by the "blind hand" of society, and they have the potential to make their own choices. This ability to choose, instead of behaviour by pure instinct, is what allows humans to live in society and cooperate or antagonise each other (Runciman 1998:13). As daily life shows "no two minds are alike" and therein lies the huge potential for change in human societies. It is almost impossible to get people to agree to anything. When dealing with thousands or millions of different thoughts (people) simultaneously, change is bound to occur in every aspect of life. That is why stability must be explained – not assumed – as certain social mechanisms or other cultural phenomena that preclude or inhibit the potential of differential human thought to express itself in the physical world and change it.

There is the post-modernist fear that this "individualism" of the mind is a western assumption. And in the face of western domination and expansion it is a justified critique, as has been shown in this chapter, of how western ideas can be assumed to be inherent in all human beings. However, if all humans belong to the same species, it is hard to see why Palaeolithic hunter gatherers or Cueva Indians of the Contact period would not have had the same potential to think differently from each other, to have different ideas and the will to express them in the world, as modern humans now do. The ability to think – and agree or disagree – is not a prerogative of western brains but of *Homo sapiens* brains (Van der Leeuw 1994:135; Schlanger 1994). It is the

potential to think differently that makes culture, ideological and social structures within human groups inherently dynamic, unstable, non-linear, and prone to change.

Understanding the processes, which generate both continuous and discontinuous change in the dynamic evolution of complex sociocultural systems, is thus of critical importance for archaeology. At the micro-level archaeologists must come to terms with the role of the individual in social reproduction, while at the macro-level, archaeology needs to assess the contribution of such behaviour to the long term structuring of societal organisation and vice versa (Dobres and Robb 2000a; McGlade and van der Leeuw 1997:4). This perspectivism, as seen above in Bailey's argument, not only applies to the synchronous cultural content of a society, but also to the diachronic dimension through which social processes occur.

Non-linear Problems

As with the linear concept of time, a non-linear view of time and history is a world-view, another set of differently tinted glasses with which to gaze at the world, another background on which to place explanations. Supporters of the non-linear concept of time have not made clear yet how this new approach will apply to archaeological explanation. It all sounds convincing in theory, but in practice it will be more difficult to achieve an explanation of ordered societal chaos.

One good example of this worldview is a recent paper by Urban, Schortman and Ausec (2002) in which they engage political developments in Preclassic Honduras. The crucial idea is how "we must eschew the temptation to let our knowledge of how the story ends determine our understanding of its beginning. That hierarchically organized, socially heterogeneous polities would eventually be established throughout Mesoamerica by the Classic period (A.D. 200-900) does not imply that their development was *inevitable, uniform, or free of setbacks* (author's emphasis). Identifying failed efforts to establish complex polities is as important as recognizing successful outcomes" (2002:131). They have endeavoured to avoid the progressive bias from their account of time by clearly stating from the outset their world-view. From a non-linear standpoint the key factor is the unpredictability of the system and to stress how, in Gould's words, if the tape of history were run again the outcome would be very different from what it is now (1989:284-285).

The use of linear models and chronological tables render history understandable. An understanding of the sequence of events can be achieved and history can be divided in convenient periods for study, remembering that the historical outcome was as contingent and unpredictable as any other. The fact that Conte Style pottery is more elaborately decorated than Tonosí Style pottery is not due to its "laterness". It did not *have* to happen that way. It is difficult to see however, how non-linear theorists will avoid using chronological tables, or any of the other synthesising tools they criticise so heavily, in order to avoid reducing difference. If in describing

a ceramic assemblage each and every nuance of variation must be mentioned, communication among archaeologists will become too cumbersome if not impossible. Even a non-linear outlook must employ chronological tables that will look linear, whichever way they are partitioned. Nevertheless, as will be seen in further chapters, these classifications can be more refined than they are now.

There is also the matter of the unpredictability of human action, which can be over exaggerated. Human beings are not mindless drones, however, enough patterns of group behaviour do appear in the course of social interaction, in specific sociocultural contexts, to allow for a certain degree of very broad predictions. Sociologists, politologists, economists, market analysts and several other social sciences have, through the explanation of modern social phenomena, achieved the near-prediction of broad social trends and preferences (the ubiquitous opinion poll being their tool of preference), as is evident in contemporary society (Runciman 1998:23-26). From film production, designer clothes, to political preferences, context-specific predictions on what the public will favour do have a dependable amount of not only success, but also profitability.

The idea of non-linear time or history is not too different from the more sophisticated linear argument proposed by Trigger as he sees a linear trend towards greater complexity, and whether it is seen as a convenient or inconvenient fact, he insists it has been an increasingly prominent feature of sociocultural evolution for the past several millennia (Trigger 1998:262). He agrees that no tendency towards increasing sociocultural complexity is inherent in either the cosmic order or human nature, nor does increasing sociocultural complexity automatically result in general progress, in the sense of improvement in all aspects of social life, or benefit everyone in a society equally (Trigger 1998:259). Furthermore, he accuses post-modern critics of evolutionary views of playing the game of what he calls the neo-conservative agenda, by justifying inhumane and unjust cultural practices that in the end, he claims, only assert western domination even more, in the name of absolute cultural relativity (Trigger 1998:159).

Indeed, criticisms by the non-linear theorists of all history constructed before seem as typically adamant as much of the post-modernist movement. To state that all the history written to this point is inappropriate is such a broad, sweeping, generalising statement that they commit the very thing they denounce, broad generalisation and worse, exaggeration. The post-modernist statement that there are no absolutes in the world is absolute itself (Shanks and Hodder 1995).

Also, the materialist assumption that things always are in a state of becoming can be exaggerated. Even if it is true that constant change is pervasive in the world, and especially in the human world, some things can remain constant, or change more slowly than others. Again, it depends on what scale a problem is approached that constant change or stability will be seen. For the last 40,000 years Homo sapiens has ruled the planet, but if the scale is augmented, and specific

regions and periods are investigated, then the genetic diversity of humankind will become apparent if we look at, say, Cueva Indians and the Spaniards of the Contact period. The genetic makeup of the Panamanian population has changed over the past 500 years, yet we are all still Homo sapiens.

Therefore, a balance or a more "democratic" solution (Wilson 1992:48) must be reached. Sometimes there are absolutes, some other times there are not. In some instances things are black and white, in some others they are not. If post-modernists see the world as a varying scale of greys, it must be acknowledged that even if they are at each end of the scale, black and white also belong in that very scale. Consequently each question must be adapted to its shade of grey, to the problem at hand and to the scale of the problem. Questions at different scales cannot be compared, just as apples and pears cannot.

Time

What is time? This question has been asked probably since the beginnings of human thought, different peoples assigning it diverse definitions. Plato, Heraclitus, Parmenides, Zeno and Aristotle dealt with the subject. So did St. Augustine (his puzzlement about it is ubiquitous in the literature), all the way through the modern era with Locke, Kant, Durkheim, Leibniz, Einstein, Levi-Strauss and Hawking among countless others, each redefining time, or building up on previous definitions, from different philosophical and scientific viewpoints (Bender and Wellbery 1991; Gell 1992; Gosden 1994; Hawking 2001; Parkes and Thrift 1980; Thomas 1996). Many of these individuals dealt not only with trying to define time itself, but with the ways in which humans think of time, and how they built it and managed it in the past. Most of this discussion though, has been outside the realm of archaeology. The bulk of the history of humanity concerns archaeology, embracing vast stretches of time, yet there is virtually no discussion of time, it simply being assumed as an unproblematic dimension requiring no further intellectual consideration (Shanks and Tilley 1987:118).

After reviewing the myriad approaches to time in the literature, one of the latest seems the soundest. In the words of Alfred Gell in his "Anthropology of Time"

> *"...One of my primary aims has been to dispel the aura of mystery and paradox surrounding time. There is no need to be in awe of time, which is no more mysterious than any other facet of our experience of the world...There is no fairyland where people experience time in a way that is markedly unlike the way in which we do ourselves, where there is no past, present and future, where time stands still, or chases its own tail, or swings back and forth like a pendulum... There is nothing new under the sun, in the sense, at least, that there is nothing out there to affect our estimation of the logical possibilities inherent in the world with which we are already familiar; on the other hand, most of what there is "out there" is simply unknown, never observed, never described, never thought about, never set down on paper. That ought to be sufficient" (1992:314-315).*

For Gell, and one concurs, it is feasible to study time within different cultural contexts (aided by various analytical frameworks), while maintaining that time is always one and the same, a familiar dimensional property of our experienced surroundings. He insists on a distinction between time and processes happening in time. There is no theoretical difference between "physical, biological, social or psychological time"; though one can easily distinguish physical, biological, social and psychological events, and interpret them as moments in physical, biological, social or psychological processes. Time lies completely outside us (Gell 1992:315-316).

No matter how it is conceptualised or divided, time has always passed, unstoppably, since the supposed beginning of the universe. Whichever society experienced, used and created time, it passed for them, as it does for us today. Therefore, a year for a person today (taking the definition of a year as being one revolution of the earth around the sun) was a year for somebody one hundred, one thousand, one million years ago. If skeletal analysis of the remains of a person determine that he or she died at the age of, say 40, surely those 40 years were the same for him/her as for us. Maybe he and his society did not count the years the same way, or feel or think of them the same way, nevertheless, those 40 years passed away, and so did that person.

There are many ways of representing time, but there is one single time dimension, on which all events occur one after the other. That is, time does not exist because events are in a sequence; time is not process. Sequenced events do not make time, as the time dimension would still be there even if the events did not take place. Time is not a mental state, nor a mental representation of events; it is a measurable dimension (Murray 1999a; Parkes et. al. 1980; Withrow 1972). The fact that there are no human beings around does not mean that time does not pass.

The cyclic process of day and night and the seasons have always been there for humans and it is probably responsible for the fact that human activities are measured in astronomical terms (Parkes et. al. 1980:37-38). Modern division of time into seconds, minutes, hours, etc., may be arbitrary, but is apparently an accurate as possible measure of what is happening in the cosmos, even though the use of astronomical phenomena as a measure of time is now considered obsolete, as the use of the atomic clock has set a new international standard for the division and measurement of time (Parkes, et. al. 1980:43). Therefore, not taking into account physical factors that affect calculations at macro and micro scales (effects of physical relativity such as an observer's speed, or the loss of momentum which slows down the Earth), considering that all human societies have developed on this planet, and that all humanity has thus always been moving at the same speed, one can conclude that for all humanity that ever existed, the passage of time has always been the same. Consequently, the modern definition of time – a year for example – can be applied to the past, and through means such as radiometric dating, used to measure accurately – with a sometimes comfortable error margin – how distanced past events are from the present and each other in time, as well as how long these processes lasted.

A sensible concluding thought is offered by Gell, in stating that "the time-anthropology (and the time-archaeology, may we add) of the future must be open-ended, eclectic, empirical, neither subservient to the prestige of the scientific method, nor so paranoid about science as to fail to see the virtues of objectivity, logic and soundly-based argument, lucidly set down on paper. Just because time is...tenuous does not give us the right to be obscure and baffling in what we choose to say about it" (Gell 1992:328).

Conclusions

This chapter intends not only to familiarise the reader with past and current approaches to time in archaeology, but also to state the epistemological basis for this thesis and its research questions.

Time and its concepts

It is assumed that time is linear, proceeding from past to present to future. It is a physical reality outside the human agents and the societies they compose. Different apparent durations of time can thus be considered fictitious. Thus it would be useful to place the entirety of the human past within the western, scientific time frame of reference; dividing history in terms of Before and After Christ, or before and after the present would not only be acceptable but convenient. The modern calendar (a tool) can work as an absolute frame of reference on which all past events may be placed, without it necessarily meaning that the present is the epitome of past cultural processes. Time is linear, history is not.

Linear and Non-linear History

Archaeologists appear to have chosen between two main alternatives when dealing with time and the flow of history in their explanations of change. In broad terms, it can be said these choices are very much like the essentialist-materialist dichotomy expressed by Lyman, O'Brien and Dunnell (1997). One, linear progressive, essentialist, in which change comes about through periodic feedback into the system, in a way not very different from ripples in a pond after dropping a stone. The ripples affect the calmness of the – ever qualitatively improving – pond, until all the energy is expended and normality returns, until some new change comes in the future. The non-linear model, materialist, sees change as intrinsic to the system, so we start off with an effervescent pond, and dropping a stone, no matter how little (a single person)[4], can cause a chain reaction throughout the entire system, changing it in ways difficult to trace and almost impossible to predict. The ripples would be hard to see in this ebullient pond, because things never are stable, "they are always in the process of becoming" (Lyman et. al. 1997:5).

[4] Often the study of the effects a single person or chance occurrences can have, have been either ignored or plainly ridiculed. For an interesting discussion on the subject see Cowley 1999.

However such strict dichotomies are hardly ever advantageous, useful, or realistic, and it could even be argued that they are just another essentialist illusion, following the very argument of Lyman, O'Brien and Dunnell. Reality is much more subtle and complex, and things, as they clearly state, are never so black and white. Linear or non-linear concepts are like worldviews, different tints in the theoretical glass, very much akin to what Cowgill endorses for agency theory and its explanations of change, which is also involved in the non-linear view of the world (2000:51). It seems also clear that a multi-disciplinary approach is more adequate to study variability, rather than trying to adjust the entire human experience to a single and narrow theory about the universe. Renfrew has already warned against the dangers of a priori theories, where after rigorous testing these theories do not hold water. "...Let us remember that our ultimate goal is not so much theories which conform to our own a priori view of the world, but those theories which actually work" (Renfrew 1982:143 in Murray 1999c:15).

A non-linear approach, assuming as inherent the variety and unpredictability of human systems, seems to be a fresh and useful theoretical lens through which to study human processes. It keeps present that the archaeological record is the static, degraded imprint of a dynamic, non-linear system, and that most archaeological evidence shows a very non-linear, diverse world. By stressing that there is a strong relationship between contingency and determinism, that both are opposite sides of the same coin, non-linear dynamics can offer the balance needed in archaeological explanation. Gone are the single-minded general laws of human behaviour trying to encompass all of humanity and its past, or the extreme contextualism that forbids the recovery of any knowledge from the past. Non-linear dynamics and their definition of history bear an alternative worldview on which to base theories and methods. Ever-progressive stages or periods are no longer needed, propitiating the placement of periods, or phase transitions (our continuities and discontinuities) in a framework where change is the norm. Stability, being the exception to the rule, must then be explained. If things stay the same, and they do sometimes, what was there to preclude change and why?[5]

Most modern scholars would agree that a purely linear progressive history is not tenable anymore (see Fitzgerald 1998:155 note 5). However, there is still a very strong preference for linear history among the general public. The traditional history of evolution destined to produce a human race at the centre stage of the universe is a very comforting thought for many people around the world, as Gould proves (1989:29-36). It is very alluring to think of oneself as the pinnacle of evolution. The idea of progress is still very much entrenched in the minds of modern day policy makers, educators, and the young. More dangerously, very much alive among the lay audience is also the concomitant fallout of the idea of progress, that people who do not abide by

[5] Bradley suggests the idea of restrictive societies, where social rituals pretend to curb the rate of change through imposing traditions on its participants. Nevertheless, this kind of explanation is seen too often in the literature, and

the western way of life are retrograde, primitive, uncivilised and inferior. It is enough just to open any newspaper, popular magazine[6], or watch most television archaeological documentaries to witness this process at work. Linear progressive history still dominates the public's mind and it is towards them that archaeologists should direct their efforts, if their "illuminated" points of view are to have any meaning or relevance in this world.

A non-linear perspective also has its problems, as any other worldview. Yet, if it can avoid some of the worst problems of the linear paradigm then it is a welcome addition to archaeology's epistemological baggage. One would think that if it is coupled with the advantages of the methodological tools already in use in archaeology it will provide more depth and import to the knowledge of the past.

Although non-linear time concepts are allegedly a new approach, many scholars have long recognised non-linearity. The current dichotomy between linear and non-linear history is more an attempt at a precise definition or to make explicit the thinking of both camps, a labelling of their theories. The advantage of this clarification is that once they are recognised as theories, paradigms, or world-views, they can no longer be thought of as "common-sense" – and thus the only – ways to interpret the world, but just as another set of tinted glasses.

Time Perspectivism and Temporal Scales

There is a difference between the temporal rhythms of natural and societal processes (McGlade 1999b:152). In the case of most prehistoric societies questions of small temporal scale (societal structure, ideological patterns), the "emic" perspective, are difficult to answer, while the limits of resolution of prehistoric chronologies mean that they are convenient for studying development at the long term scale. There are circumstances in which the nature of the archaeological time scale makes social developments at a broader scale more amenable to study than short term individual fluctuations (Bradley 1991:217-218). Ultimately it is all a matter of the questions asked which carry themselves an implied temporal scale. We must be able to adapt the temporal scale of the theories/questions with the temporal scale of the evidence, which is Bailey's basic message. When attempting to integrate information from several sites into region wide studies, the data has to have an equivalent temporal, spatial and qualitative scale throughout. It seems that by combining a non-linear approach with time perspectivism, perhaps a more refined history of past human societies can be built.

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most prehistoric societies are simply assumed to be traditional, restrictive. This lack of change must first be proven, not assumed (Bradley 1991:217).

[6] For a perfect example see Rick Gore's article in the April 2003 National Geographic Magazine on the origins of mammals. It is filled with references to "more advanced" forms, "primitive anatomy" and "evolutionary improvements".

The two methods of classification of pottery used in this study, taxonomical and modal, will now be discussed. It will be shown how each method and its assumptions produce a different classification, chronology – time, history – and a different temporal scale, and therefore affect the histories told of past peoples.

Chapter 2
Theory and Method in Taxonomical and Modal Analysis

Introduction

This chapter deals with methods of classification specifically focusing on the two most widely used with pottery, namely the taxonomical (typological) and modal (analytical) (Rouse 1960:313), which have dominated archaeological discussions in the Americas for decades. The discussion will hopefully underline the strengths and weaknesses of each method, and foster a rethinking among Panamanian archaeologists of how history is built through each. Thus, it may provide a tool for re-evaluating Panamanian Precolumbian history as it has been laid out by archaeology over the 20th century.

Like statistics, a classification is not an end in itself, but a means or technique with which to attain specific objectives, and so it must be adapted with the objective (Rouse 1960:313). The two main classification methods discussed here, taxonomical and modal, have been used over the years with different objectives in mind, but, in archaeological works, these objectives have usually been narrowed down to: diachronic or chronological explanation for the former, and synchronic, cultural description for the latter. That is, the taxonomical method has almost been perfected to exclusively serve the purpose of extracting time – chronology – from the pottery under study, while the modal analysis has been used to describe a synchronic cultural reality, or the "potter's mental template" (Lyman et. al. 1997:105) from the material. It is hoped that a critical analysis of those methods will show that an approach complementarily using the best features of both can achieve a better synchronic characterisation of an archaeological assemblage and a more refined or precise picture of its diachronic evolution.

The Case of Panamá

For most of the Eastern Region of Panamá (Cooke 1976, 1984), where Panamá Viejo lies, field research has been limited to surface collections of artefacts and a few sporadic excavations (Fig 3.1). Most of that research and the resulting chronologies were carried out and built in the 1970's and preceding four decades, using the taxonomical method of classification, while the debate about the pros and cons of different methods passed almost unnoticed in local scholarly circles. Thus taxonomical analysis plus Fordian seriation (1962) – coupled with linear progressive time concepts – dominated the theoretical/methodological arena, with their resulting temporal constructions. Alternatives have only recently been considered (for more recent modal analyses outside the Eastern Region see Isaza 1993; Linares 1980; Sánchez 1995; Sánchez and Cooke 1997).

Through taxonomical analyses of pottery, a handful of radiometric dates and the ethnohistorical record, Panamanian Precolumbian history is divided into periods of developmental progression.

The history of the Eastern Region goes from Period I, Palaeoindian, to Period IV, Ceramic, until Spanish Contact (see Table 3.4.). Qualitative development – improvement – has often been implied in the interpretation of this chronology by past authors, from the Aceramic Palaeoindian of hunters and gatherers, evolving into the Preceramic distinguished by the origins of agriculture, to periods III and IV where first plain ceramics and then decorated ceramics appear, respectively. Every period is characterised and defined by a certain artefact assemblage – such as pottery – and its types. Temporal divisions stand in between vertically adjacent pottery types, and societal change has in the past been assumed to take place only at these junctions (as seen in chapter 1, this need not be the unavoidable outcome of a chronological table, rather a misinterpretation of it). This outline of the history of the Eastern Region of Panamá is a linear development from 10,000 BC until AD 1500, from primitive, hunter gatherers to "almost" civilised chiefdoms that did not quite achieve statehood (Lange et al. 1992a:272).

Essentialism vs. Materialism

According to Dunnel, Lyman and O'Brien a dichotomy between completely different views of reality has only recently been explicitly recognised by archaeologists: essentialism and materialism. An essentialist metaphysic presumes the existence of discrete kinds of things. The things that form these "kinds" or types share essential properties – their "essences" – and these properties dictate what type a specimen belongs to. There is no gradualness or variation between these types, it is either black or white. Gradual evolution is basically a logical impossibility for the essentialist typologist. Evolution, if it occurs at all, has to proceed in steps or jumps. A specimen of type A is type A in this time and place, but in another time and place it somehow changed into kind B. Only the difference between different kinds, or types, can be measured. For this reason, essentialism is often referred to as *typological thinking* (Lyman et. al. 1997:4-5; see also Dunnell 1982).

In direct opposition there is the materialist metaphysic, which holds that phenomena cannot exist as bounded, discrete entities because they "are always in the process of becoming" something else. All things are composed of unique features and can be described collectively only in statistical terms through arithmetic means and the statistics of variation. Averages are merely statistical abstractions, only the individuals of which the populations are composed have reality. In sum then, for the essentialist thinking typologist, the type is real and the variation is an illusion, while for the materialist thinking populationist, the type (average) is an abstraction and only the variation is real (Lyman et. al. 1997:4-5).

> *The materialist-essentialist paradox [has] permeated most interpretive efforts. Artifact types that allowed measurement of the time-space continuum were actively sought but were also typically warranted as reflecting ideas in the heads of the artisans. Culture might have been thought of as a constantly flowing braided stream of idea sets, but the individual histories of what were thought of as cultures were monitored as a series of isolated frames within a motion picture. Those isolated frames... came to be viewed not so much as a random selection of snapshots along the continuum*

> *but as real periods of cultural stasis that were separated by nearly instantaneous alterations in idea sets (Lyman et. al. 1997:159).*

They claim that the initially good intentions of typologists were inadvertently turned to the service of this "reductionist" science and that the tools they created to interpret reality were actually confused or mistaken for reality itself. Lyman, Dunnel and O'Brien affirm that this materialist-essentialist dichotomy has a direct effect on how archaeologists use different methods to classify artefacts, and how they conceptualise societal diachronic change. For the culture-historian, once chronologically useful types were created and ethnologically identified, and their battleship-shaped time spans seriated and ordered in time, the beginnings and ends of these spans became the points at which to draw the line for the creation of temporal stages or phases. This image then created the essentialist illusion (discussed in chapter 1) that change only happened at the borderline between two stages or types, followed by a battleship-shaped period of formal stability for this type, or culture, and then by another instantaneous moment of change (Lyman et. al. 1997:131-133). But it is only a mirage, a misinterpretation, for the history of the popularity of most discrete material things, say a particular type of pottery or brand of car, does change in a battleship form; first the introduction, then a maximum popularity, followed by a wane on frequency and finally disappearance. The mistake is in thinking that change only occurs at the ends of the curve, because before they disappeared, Macaracas Style pottery or the Ford Mustang both experienced many changes but were still recognised as such.

Although this simple dichotomy reflects a seldom-discussed aspect of archaeological epistemology, it is likely that such a simplification of such a complex matter may be another "essentialist illusion". Archaeological theory is a vast world of different opinions ranging from the extremes to more balanced positions. Stating that all archaeologists simply belong to one band or the other is such a broad generalisation, that they also commit what they denounce. Archaeologists are dynamic entities, more varied than simply black or white, essentialist or materialist. Although these authors offer an interesting and revealing insight within patterns of archaeological interpretation over the 20th century, their accusation may be too broad. However, even if their claims are unjustified when it comes to many archaeological practitioners in regions such as Mesoamerica for example, they may apply to the chronology and typologies of Eastern Panamá, which were first built by – probably unknowing – essentialist culture-historians in the mid-20th century. By the 1970's when the latest work was undertaken by processual archaeologists, the essentialist and linear progressive paradigm were still in use (the culture-historical legacy is still a major influence on Latin-American archaeological epistemology, see Politis 2003:116-117). In sum, an essentialist ceramic taxonomy was built that pictured diachronic change as a step-like succession of 'essential types', a perfect complement for the linear-progressive historical concept, with its progression of 'essential historical periods'. It was essentialist taxonomy to classify pottery and time. "The evolutionary model (i.e. bigger is better,

and progress is desirable) has been so dominant in anthropological studies for the past century that it is difficult to examine data...from a fresh, non-evolutionary perspective" (Lange et al. 1992a:278).

Hence, what follows is a review of the conceptualisation and operationalisation of both methods of classification, and then a comparison of their advantages and shortcomings in the building of chronology.

The Taxonomical Method

It has been the most frequently used in the classification of Panamanian pottery, usually in conjunction with Fordian (Ford 1962) percentage seriation of ceramics (O'Brien and Lyman 1999a; Orton et al. 1993:189-196; for a classic Panamanian example see tables in Ichon 1980; see also Baudez 1967:3-17 for a thorough exposition of this method), with an almost single-minded purpose: to build chronology. In Panamá, styles, types, varieties and other units of integration of pottery clutter the archaeological landscape.

This method is based on the creation and classification of taxonomical units of shared attributes, in most cases called types and varieties. It is possible to say that this system of classification can often entail an essentialist view of the world, and in this case, of ceramic assemblages, even if this was not its original intention as will be seen below in the definition of the term 'type'. There are many definitions of the different classificatory terms it uses and a coherent summary of past and current opinions will be attempted here.

Krieger affirmed that the purpose of a typological classification was: "1) to standardize comparison of specimens over wide areas, 2) to save time in sorting, tabulating, and describing masses of material, 3) to provide convenient reference forms and terms to expedite field recording, surveys and cataloguing" (Krieger 1944:272-275). However, the single most frequent and highly regarded use for the type was and still is to find sensitive chronological indicators or historical types for the construction of chronology (Braun 1985; Keech 1995:5; Ford 1962; O'Brien and Lyman 1999a; Orton et. al. 1993:11). It "...is a systematic framework for creating, describing, and naming widely comparable historical-index classificatory units" (Rice 1987:282-283). Of these units, the most commonly used are the type and the variety, examined below.

Types

A type is a ceramic unit – or a collection of sherds – that is recognisably distinct as to certain visual or tactile characteristics. It is an aggregate of distinct ceramic attributes indicating a specific category of pottery produced during a specific time interval within a specific region. Since a type represents a cluster of attributes, no one vessel or special group of vessels portrays

the type in its entirety. Any given pottery type is more than the sum of all the varieties within its range. Therefore a type is not a stable entity, it is always in a relative state of change, as no analysis ever really completes a type definition for different varieties may be discovered or rethought. It is always being added and subtracted to. Ordinarily, a type is composed of different varieties, which even if dissimilar share formal, spatial and temporal characteristics (Gifford 1960:343, 1976:9; Rouse 1939, 1953, 1960; Shepard 1954; Smith et. al. 1960, among countless other authors who define the term).

Thus, the definition of the type given here is materialist one. However in practice, as in Eastern Panamá, when placed on a chronological chart it can be misinterpreted as an essentialist, static unit and thus diachronic change is seen as jumps, from type to type, with small fractions of fast change/variation in between.

Varieties

They do not exist apart or separately from a type; they are subsumed within the type (Rice 1987:283). A variety differs from the type that contains it regarding its internal attribute content. It can be distinguished from other varieties of the same type in the matter of one or a relatively small number of attributes. Too many differences indicate that these varieties belong in separate types (see Wheat et. al. 1958; Sears 1960:324). Therefore a variety differs from another within the same type only with reference to lesser technological and aesthetic or technico-stylistic attributes, which may further reflect minor but significant regional or temporal differences. Consequently, three main aspects of variation can exist: 1) technological or stylistic varieties, 2) geographical or areal variety, 3) temporal variety (Gifford 1976:10). Varieties cannot be held to represent any cultural configuration in its entirety. "They reflect individual and small social group variation, rather than whole culture phenomena, while the type portrays a combination of a number of pottery traits that were acceptable not only to the potter but to most others adhering to a given culture pattern" (Gifford 1960:343). In this manner there can be a shell stamped variety or a punctate variety of an incised decoration type.

Method of taxonomical analysis

An ordered or hierarchical structure of categories is the basis for taxonomic classification (Rice 1987:277). In a taxonomical classification that counts sherds, these are segregated into different piles or groups, that is types, varieties and other units of integration. These sherds exhibit different attributes, therefore different piles are made up of sherds with differing attributes. To commence classification or separation of the piles or groups, one must first choose, depending on the aims of the research, a first attribute, or a group of attributes, from which all other classification will depend. What is actually counted are the sherds, not the occurrence of attributes on them. In this manner, if surface decoration is chosen as the first attribute for segregation, several piles of differently decorated sherds will result, that will then be further

segregated according to another attribute. In the first step, the main point is to sort the material into groups that contrast strongly (Gifford 1960:24-25). This creates several mutually exclusive, hierarchically ordered groups, that depend on the attributes chosen for segregation (see Fig. 6.1. and 6.2.). "The various features must all be considered, but without insistence on any particular order. It should be free from preconceived ideas of the relative importance of any particular characters of shape or treatment" (Krieger 1944:280). Usually it is surface decoration and treatment that are given precedence over other pottery attributes (see Braun 1983) for they are thought of as useful temporal markers, and because they are supposed to be "relatively free of technological or functional constraints and thus represent a class of attributes very much under cultural control" (Beaudry-Corbett et al. 1993:4). The piles of sherds can also be segregated following the pottery making procedure, that is, choosing first paste attributes, secondly vessel shape attributes and thirdly decoration.

The criteria chosen for segregation are usually those that serve the archaeologist's purposes best. A study of ceramic technology would base a classification on variations in raw material and methods of manufacture, whereas a scholar studying the various functions of pottery for storage, cooking, etc, might classify the vessels according to shape and size (Renfrew & Bahn 1996:108). This is why it is called arbitrary, because if two archaeologists have different research goals in mind, they can start classification with a different attribute order. In Mesoamerica, for example, the need for standardisation and ease of communication has almost eliminated this problem, prompting most archaeologists to choose the same attribute hierarchy.

Following the creation of the main types, they can then be grouped into larger units of integration, depending on what the researcher is looking for: order in time, space, content, or a combination of these. Through units such as the sphere, school, ware, complex and other group categories, and their combined use, ceramic sequences are established, bringing to light the chronological development of pottery in time and space. "This is taxonomic classification by means of type-variety analysis" (Sabloff and Smith 1969:279).

Type-variety Classification

The most widespread and prominent version of taxonomical typology is the "type-variety" system, used all over the American continent and especially well developed in the Southern United States and Mesoamerica. In the latter area – which is referred to for its geographical proximity and its methodological influence on the Intermediate Area – the terms type and variety have come to mean very specific things. Thus under that system practitioners know what pottery attribute hierarchies are referred to regarding a type, variety or complex. It has now become very systematised, so that almost every researcher chooses the same order of attributes, dispelling the confusion that reigns in other regions such as Eastern Panamá. In this way most types in Mesoamerica, Nicaragua, Costa Rica and Central Panamá have been defined first by surface

decoration, followed in the hierarchy by other attributes such as vessel form. The recurrent use of this method in Mesoamerica is geared towards the construction of chronology, but there is likewise the earnest desire to "make our pottery typology comparable to that used by our colleagues in neighboring areas" (Flannery and Marcus 1994:43; see also Baudez et al. 1993; Bonilla Vargas et al. 1987; Sabloff and Smith 1970; Stevenson 1984).

The Modal or Analytical Method.

Its main classificatory unit is the mode (Rouse 1939, 1960; Spaulding 1953; 1960; 1982; Gifford 1976). A summary of the several definitions of the term mode will be presented here. This classification can also be seen as grounded on the materialist paradigm explained above.

Modes

The mode is a theoretical unit built to represent the indivisible attribute of manufacture, form, technique of decoration, or design (Phillips 1958:117). As defined by Rouse, a mode is "any standard, concept, or custom which governs the behavior of artisans of a community, which they hand down from generation to generation" (Rouse 1960:315; see also Rice 1987:277). Lathrap uses the term mode, to designate a minimal unit – hence indivisible – of meaningful behaviour with regard to material culture (Lathrap 1962:218), stating that mode has application only when dealing with the structural analysis of ceramic complexes viewed synchronically. Mode is a distinction which was consistently made in the minds of the potters (Lathrap 1962:50). From the point of view of the archaeologist, modes are clusterings of the data along a particular dimension involved in a ceramic analysis, but from the point of view of the potter modes represent degrees of freedom or culturally approved alternatives (norms) (Lathrap 1962:226-227).

Raymond, DeBoer and Roe, based on Lathrap, gave a more refined definition of mode, which seems to be the most convenient definition for this dissertation. Modes represent the minimal units of variation, and are defined with reference to dimensions. Dimensions represent axes of variability (Raymond et al. 1975:5). Dimensions can also be thought of as an aspect or property of the subject matter requiring its own special measuring device (Spaulding 1960:438). In other words, dimensions are any axis or range within which ceramic material may show formal variability. The elaboration and complexity possible within a ceramic complex will be related not only to the number of modes involved in the complex, but also to the number of dimensions along which these modes are arranged (Lathrap 1962:223).

Modes, then, are the units of variation along a dimension, which are assumed to be culturally significant. Modes from the same dimension can be mutually exclusive. Variation along a dimension may be continuous or discontinuous. When the variation is discontinuous the modes are represented as discrete, qualitative attributes such as paste colour, slipping or incising which

consist of discrete formal attributes of the pottery, and are straightforward to discover. Quantitative modes offer a more complicated scenario, for they show continuous variation, such as the rim diameter of vessels or the average width of the sherds. In this case, statistical curve fitting is necessary to establish the most frequent value, which will then become the mode. Nevertheless a group of values can have more than one peak, resulting in a bimodal or multimodal batch, and therefore two or more distinct modes. For example, these could be two groups of rim diameters, small and large, between 8 and 14 cms. for the small ones, and between 20 and 26 cms. for the large ones (see Drennan 1996). In this way the continuous variation can be handled in a discontinuous manner (Lathrap 1962:217-218; Raymond, DeBoer and Roe 1975:5; Spaulding 1960:440-441 and 1982).

Modes are theoretical units, different from attributes, which are empirical units. Modes and types are not and *cannot* be actual attributes or artefacts, since attributes and artefacts have specific positions in time and space and because they differ from all other specimens in at least some formal properties (Lyman et al. 1997:105). Pottery has attributes that are real empirical units. A mode is a rule, a standard upheld by that community represented in certain attributes of the pottery, not an attribute itself. Therefore a distinction must be made clear between a ceramic attribute and a mode. If these attributes were not meaningful to the potters, they are then useless in a synchronic analysis to get an "emic" perspective of a society. "It is doubtful if all of the variability exhibited by pottery made under pre industrial conditions is either culturally significant or culturally controlled. A modal analysis must deal only with that part of the physical variability found within a ceramic complex which is culturally controlled" (Lathrap 1962:225).

Hence all attributes that to him were meaningful he called modes[7]. A mode is a theoretical unit devised by the archaeologist to recognise the artisan's individual cultural choices when manufacturing the pot; the mode has cultural reality, but does not necessarily have a precisely definable chronological significance (Lathrap 1962:50-51; Lyman et. al. 1997:105). Therefore for the purposes of this thesis, one will deal with two units, modes and attributes (also called non-modal attributes).

According to Lathrap a ceramic feature must show a precisely definable chronological significance to be of use. This is because if one of these attributes appears or disappears from the assemblage it could indicate diachronic change in the pottery, in essence becoming a temporal marker. Any synchronic analysis of a society will have to work with modes, ignoring non-modal

[7] However, it could be argued that all variation expressed in a pot can be meaningful to different observers in one way or the other. For example, in Panamá Viejo's pottery, firing clouds on the surface, or smoking, are unintended consequences of the firing process, yet they are culturally meaningful in that they were created by a culture, through cultural means, and the potters most probably knew the difference between well-fired and not-so-very-well fired pottery. It was beyond their control but surely it had meaning. It does not constitute a mode because it was not a community standard, it was not part of the decorative vocabulary, it was not a choice to make smoked or unsmoked pottery. Most probably they were aiming for unsmoked, but 2/3 of the time got fire clouds on the surface.

attributes, but a diachronic study must include as much variation as possible as seen on the pottery, modes and attributes, lest it risk missing potentially important temporal information.

Method of modal analysis

Modal analysis counts culturally significant attributes on the sherds, seeking to uncover the individual modes, or culturally meaningful minimal units of variation, to achieve a "culturally real", or more "objective" – than arbitrary taxonomical classification it is claimed – picture of past cultures through pottery. "Modes portray efforts to replicate ancient folk classifications, to represent a cultural reality" (Rouse 1960:315). Each and every recognisable pottery attribute (qualitative and quantitative) or feature is noted, listed and accounted for. What is counted are the occurrences of pottery modes and attributes on the sherds, not the sherds themselves. Then the culturally meaningful attributes, deserving the name "modes", are determined in a straightforward procedure in the case of discontinuous variation, while continuous variation could require some statistical curve fitting to determine the real mode, as explained above.

According to Lathrap, a list of modes and dimensions is the first step in the clear definition of a ceramic complex. He says that the relative frequency of the various modal combinations that do occur should be tested, as the modal combinations that occur far more frequently than would be expected on the basis of random distribution can be regarded as representative of cultural norms. And these culturally determined clusters of modes may then be dignified with the designation "ceramic type" or "modal types". "If one merely names the tighter clusters of modes and presents no data as to how tight such clusters are or whether there are specimens intermediate between the clusters, one is throwing away a vast amount of valuable cultural information" (Lathrap 1962:231-2). In other words, it is necessary to express in statistical terms, such as the chi-square test or other mathematical multivariate cluster analyses, how likely or real the modal clusters are (Brainerd 1951; Robinson 1951; Shennan 1997:111-113; Spaulding 1953, 1982). Types and varieties can be defined by reference to a standard combination of modes, or also on the basis of single modes (Phillips 1958:117).

The list of modes represents the potential "language" of ceramic variability available to the potters at that given time in a sample (see Lathrap 1962:218-219 and Spaulding 1960:442). Lathrap says that pottery complexes are structured, and that differences in the degree of structuring may be either qualitative, in the occurrence or non-occurrence of particular combinations of modes, or quantitative, in the frequency of occurrence of particular combinations of modes. Two complexes can share the same modes, dimensions, and combinations and the same tightness of mode clusterings, and still be very different in terms of the frequencies with which the mode clusters occur (Lathrap 1962:234-5). However, in ceramic assemblages with very rich modal "vocabularies" the list of modes and modal types can multiply infinitely, as the

computer or the analyst tries to identify and isolate all the clusters of variability (Baudez 1967; Borgogno 1980).

To avoid this, the "modal types" may also then be further integrated taxonomically into wares, groups or complexes, following more or less the same method used in taxonomical classification. It is here where both methods can be combined. Constructing types through modal means to avoid the arbitrary selection of attribute hierarchy, but then grouping those types taxonomically to build higher units of integration that would keep the data in a manageable number of classificatory units, and compatible with that of researchers in neighbouring areas. Even if taxonomical classification can be reductionist when synthesising large amounts of ceramic variability, it would be impossible to communicate efficiently if all ceramic variability had to be continuously expressed.

The ideal report would also offer data for various possible kinds of reanalysis which future archaeologists might wish to undertake; and it would provide tightly defined and easily recognisable typological units (in content, space and time) which workers at other sites could use to make meaningful intersite comparisons (Sabloff et. al. 1969:80-282). Thus a modal analysis to separate modes from attributes, can precede a "taxonomic" classification which would define types in terms of modes, not of arbitrarily selected attributes (Orton et. al. 1993:12).

However, the main interest of this thesis is not synchronic analysis, rather the construction of chronology. One of the disadvantages of statistical modal cluster analysis is that it "is generally, in the Americanist literature, an arcane domain inhabited by computer mavens who alone are masters of the statistical tools necessary to tease out structure, truth and meaning from assemblages now regarded as overwhelmingly complex" (Keech 1995:2). The synchronic analysis here presented shall be basic, while the focus will fall more on diachronic construction through types on one hand, and modes on the other.

Thus, the general procedure to create time would be to take these modally achieved types and varieties and build a chronology through regular means such as seriation and percentage stratigraphy (Lyman et. al. 1997:105; Rouse 1944). As will be demonstrated later, time can also be fleshed out from the modes themselves, before clustering them, offering a finer diachronic resolution.

Taxonomical vs. Analytical

Methodological discussions about the pros and cons of both classifications have endured for decades. Most of the arguments from each camp have focused on the other side's drawbacks. These arguments, seemingly irreconcilable, are related to several issues that both methods treat

differently, from operationalisation to theoretical problems such as that of cultural reality, attribute selection, fluidity vs. solidity, differences in scale, and differences in what is measured. However, both methods display positive features that can be used complementarily to achieve solid scholarly communication, good inter-site comparison of results and a more synchronically and diachronically comprehensive, inclusive and revealing classification.

Beaudry-Corbett, Henderson and Joyce think the representation of both methods as incompatible is a false dichotomy. "The real difference is that taxonomic strategies create a variety of categories above the level of attributes that become the primary units of analysis; a modal approach deals with variability at the more fundamental level of attributes" (Beaudry-Corbett et al. 1993:3). They argue that whereas modal analysis offers great flexibility in tracking variability among independently varying attributes – its strength being its avoidance of many of the complexities of taxonomic systems – taxonomies focus on a few clusters of attributes, which may mask important dimensions of variability. With some ceramic samples, especially those poorly preserved or with severe fragmentation, the definition of useful classes may be so problematic that a taxonomic approach is unwarranted. Although under these circumstances, description and analysis will naturally emphasise modes, it is possible to characterise most ceramic samples in terms of more complex combinations and permutations of individual modes, that is, types, varieties and the like (Beaudry-Corbett et al. 1993:3).

Taxonomical Analysis	**Modal Analysis**
Ease of building types	Complicated procedure to build modal clusters in complex assemblages
Short time of procedure	Lengthy costly procedure
Broad chronological scale	Finer chronological scale
Efficient summary description of types and varieties, for effective scholarly communication	Comprehensive – albeit potentially overwhelming – listings of all modes, attributes, modal clusters, and cluster strength
Counts sherds or vessels	Counts modes on sherds or vessels
Hierarchy governed by first attribute	Classification not dependent on any one mode
Historical development of types ties attributes to one another (low diachronic resolution)	Every mode may have a diachronic development independent from other modes (high diachronic resolution)
Attribute hierarchy chosen according to researcher's goals (problem-oriented analysis)	The material "speaks for itself" telling the researcher how it is grouped
Considered essentialist	Considered materialist

Table 2.1. Features of both methods of classification.

Operation of methods

The differences between both methods are not only theoretical, but also operational. One of the main distinctions lies in what is actually counted or classified, one counts sherds, and the other

counts culturally significant attributes – modes – on the sherds. Operationally speaking, noting down every mode observed is also a more lengthy process, which not everyone is prepared to undertake, one fact that helps explain its unpopularity among archaeologists. Taxonomical analysis, on the other hand, is a simpler, expeditious procedure, producing benefits (chronology) in a shorter time (Borgogno 1980:402). Personal experience shows that grouping sherds into piles and counting them is far easier than listing every mode seen on every sherd. A modal analysis, such as the one undertaken in this dissertation can take many days and weeks, while a taxonomical segregation of the same material can take hours or days. However, once compiled, the data gathered for a modal analysis can be clustered modally or be classified taxonomically, allowing for any attribute hierarchy or focusing on any one attribute. Hence, the harder the work, the richer the payoff, although budgetary and temporal constraints can influence what method is chosen.

Cultural Reality

The disputes concerning whether types are inherent in the data and recognised by analysts or whether they are artificial units imposed on the data has persisted for decades, epitomised by the Ford-Spaulding debates (Ford 1954; Lyman et. al. 1997:147-157; Shepard 1954:306-322; Spaulding 1954; Willey and Phillips 1958:13). The type is not necessarily meant to have a cultural reality per se, but to unveil formal, spatial and temporal distinctions is the claim of taxonomists. Some authors even deem the question irrelevant; the type only has validity if it enables the researcher to divide time (Baudez 1967:3; Ford 1962; Lyman et. al. 1997; O'Brien and Lyman 1999a). However, others argue that if basic ceramic units of analysis are imposed on the data, these same units cannot, except by chance, reflect ancient cultural values or phenomena. Modal analysts claim that only if these units are recognised when suggested by the nature of the pottery itself, they are then usable as indicators of time and space (Gifford 1976:5).

If types are to be culturally and historically real, it is argued, they must reflect the ideas and values of the ancient people who made and used the artefacts. "Each type should approximate as closely as possible that combination of mechanical and aesthetic executions which formed a definite structural pattern in the minds of a number of workers, who attained this pattern with varying degrees of success and interpretation" (Krieger 1944:278). It is hard to see how a classification that arbitrarily chooses the attributes to classify will reach an image of cultural reality, if that is the goal in the first place, because some would argue that although for certain purposes it may be desirable to achieve some correspondence between devised and folk classifications of archaeological pottery, this is not the only criterion for the utility of a classificatory system (Rice 1987:283-285).

"Modes are inherent of the collection...different archaeologists should come up with the same modes. Types are imposed on the collection. The mode is a natural unit of cultural study,

whereas the type is an arbitrary one" (Rouse 1960:318). Types built through modal analysis are said to be able to reproduce folk (emic) classifications and represent the artisan's "mental template" for creating the artefact. A mental template is "the idea...from which the craftsman makes the object. The form of the artifact is a close approximation of this template, and variations in a group of similar objects reflect variations in the ideas which produce them" (Deetz 1967:45-46). In modal analysis, the archaeologist does not impose the classification on the modal clusters, the material arranges itself mathematically to show the most frequent combinations of culturally meaningful modes and also the other less frequent clusters. This analysis "grows out of the data and is not a mere whim of the archaeologist" (Lathrap 1962:240).

The achievement of a classification that tries to mirror the potters', and the fact that a modal analysis can offer several ways to arrange the material, have been seen by some authors as denoting lack of purpose.

> *If classifications of any kind are to be devices useful in constructing explanations, if they are done for something other than amusement... they must be hypotheses about the ordering of data for a specific problem. Only if a specific problem is stated can the choice of definitive criteria be tested in ordinary scientific fashion as an hypothesis... Only with specifically defined problems is it possible to evaluate the utility, parsimony, elegance, and sufficiency of a given classification. Classifications must suit their problem or they are useless. They are not inherent, nor do they explain. They are imposed constructs that function to order data so that explanation is possible (Dunnell 1971:117-118).*

A classification is not inherent of geological or zoological material. However, ancient potters must have had their own classifications, their own way to see, use and separate their own pottery (see for example Bray 2003:10). Imposing a modern arbitrary classification by saying that the potter's classifications do not exist, are unattainable or irrelevant, as stated above by Dunnell, can potentially mean the loss of significant information about the past. A classification must suit a purpose or it is useless, true. A modal analysis thus suits the purpose of being the closest to an "emic" classification, of seeing the pottery through the potter's eyes. Note that it will probably not achieve an exact original classification[8], but possibly a closer approximation than one imposed on the pottery for a modern purpose. Taxonomical classifications suit their purpose of creating time very well but they can miss the "emic" mark, while a modal analysis can reveal the "emic" perspective, and also build chronology. Both goals need not be at odds with each other, because a "culturally real" classification can also present a more refined temporal scale, thus achieving a more sensitive chronology. This will be further explored later.

One of the champions of taxonomical typology, Ford, states that "a type is manufactured by the archaeologist, who cuts it out of the cultural tradition and defines it as sharply as possible from related types. Each time he sets up a type, he is guessing that the entity will serve to mark a small segment of this history. The proof of the validity, or rather the usefulness, of a type is in the using

[8] Some peoples in Venezuela, for instance, classify their pottery according to its smell, a difficult attribute to track in modern times (José Oliver, personal communication 2001).

of it. If it does serve its purpose, it is a good type. If not, it is invalid and must be either merged with its closest relative or cut into more sharply defined segments" (Ford 1962:15). He then criticises Rouse over his modal approach by saying he "sought to achieve greater precision by dealing not with types but with various elements, attributes or modes that are usually *hidden away* (my emphasis) in the type description...and they... appear to think that they are dealing with more solid and "real" cultural elements than is the typologist...That, of course, is a fallacy. The phenomenon has merely been reduced to a lower level of abstraction, and each of these elements is also a complex which could be further divided were we able" (Ford 1962:16). However, modal analysts would argue that a modal analysis is not constructed as a disposable trial and error of usefulness of modal types, but as a positive attempt at reconstructing ancient classifications by removing as much as possible of modern bias. Furthermore, and as Ford states himself, the type descriptions do hide away many ceramic features that are potentially important in a chronological construction. A chronology with the finest possible resolution, that includes the history of every attribute, mode and modal combination, can only benefit archaeology. Is that not what archaeologists seek in the end, more refined histories?

According to O'Brien and R. Lyman, "few people in American Archaeology have been as single-minded as Ford was when it came to the proper goal of archaeology: Use whatever means are at your disposal to construct a chronology and don't worry too much about the reality of the units you're using or of the time periods you're creating. Ford had this singularity of purpose from the beginning, and although he became more sophisticated methodologically as time went on, his objective never changed" (1999b:49). Ford and his method heavily influenced classification in Panamá. Ultimately, it is thought that a finer diachronic resolution and cultural reality are both desirable goals, thus taxonomical and modal classification need not be at odds with each other.

Attribute Selection

The question flowing from the preceding point is then not only what problem is one seeking to solve – cultural reality or chronology – but also what attributes to choose for the resolution of each problem? One would think that both problems could be tackled simultaneously and that both are as important. One should not preclude the other, in fact, both can be handled simultaneously as will be seen in chapters 7 and 8. But to resolve these problems a classification of chosen pottery attributes is needed as a first step.

Theory is the final arbiter of which attributes out of the almost infinite number that could be selected are actually chosen by the analyst, and these must be relevant to solving a particular problem (Lyman et. al. 1997:6). Obviously, only attributes that were caused by virtue of human intervention are useful in the kind of questions archaeologists are after, that is why not "all" attributes are used: sherd width or slipping colour are useful, while the atomic weight of the atoms in a sherd is not. In taxonomical classification, the attributes to be used are chosen depending on

what problem the analyst has in mind and the first attribute chosen governs the nature of the resultant classes, therefore the types formed are an "artefact of the attribute selection process" (Rice 1987:284). In a modal analysis the modes themselves tell the analyst how they cluster and which associations are stronger than others. No one mode defines the rest of the classification.

Decorated – painted – pottery has received the most attention as is shown in the extended ceramic sequences for the Central Region (see Table 3.2. and 3.3.; also Cooke 1976; Cooke and Sanchez 1997; Isaza 1993). Surface decoration is easily noticeable, limitlessly variable and very sensitive to diachronic change. Therefore typological classification has been achieved through the privileging of some attributes over others, in this case surface decoration over everything else. The outcome can be a reduction of diversity of the material: chronological meaning is thus skewed in the service of reductionist science is the charge of the critics of taxonomy. "Typological schemes...erected on the basis of purely aesthetic criteria... constructed around the changing stylistic ceramic modes represented by fine ware type fossils...have been frequently used to trace chronological change and to infer cultural change. Of course, if we were to select another pottery type, we might arrive at a different temporal picture" (McGlade 1999:143). "Pottery is a particularly rich source of information about the past because it preserved a long series of the potter's actions through the additive properties of the fired clay, yet taxonomical analysis offers radically thinned descriptions in which only one or two of these actions are referenced in describing whole sets of pottery ("red-slipped ware", or "cord-rouletted ware"), while the other characteristics of the assemblage remain unconsidered, unreported and, to all but their discoverer, unknown (Keech 1995:6).

Even if they are to some extent legitimate, however, these criticisms would seem to almost imply a reductionist conspiracy which is, needless to say, entirely fictitious. It is in trying to ease communication among scientists by synthesising data that information is summarised and therefore lost (Bonilla Vargas et al. 1987:1), not because there are "reductionist scientists" purposefully hiding information.

> *"In taxonomical classification, the selection of variables was often unsystematic and ad hoc, little attention was paid to sherds that did not fall into identified types, even when they constituted half or more of the assemblage, and that "ideal type" concept caused archaeologists to ignore a great deal of variability within the assemblage, an effect that was exacerbated by the limited cultural historical goals of the pottery studies. We in West Africa* [as in the Eastern Region of Panamá] *are in the enviable position of being able to look over the better part of a century's literature on pottery analysis, to see what worked and what didn't, and to devise an approach that incorporates the good elements and avoids the bad. Ideally such an approach will use a multivariate perspective to create richly textured multidimensional data sets. These sets can then be evaluated to reveal meaningful patterns of variation within and among different attributes. From observed patterns of variation, interpretive propositions about e.g., chronological change and function can be advanced" (Keech 1995:5-6).*

In other words, by using both approaches, both problems can be solved and a more sophisticated explanation achieved. By taking into consideration all culturally created attributes – modes – and

not allowing a single one to rule over the classification, a modal analysis can achieve a classification that is closer to that of the potters, with a finer temporal resolution, and a taxonomical order of modal types can provide the necessary tools for wide area studies and efficient communication of ideas.

Fluidity vs. Solidity

This point is related to the differences in operation of both methods. Modal analysis remains a fluid one (Gifford 1976:20), suitable for many purposes (Beaudry-Corbett et al. 1993:4). A list of modes could be clustered in any way depending on what the research questions are. If it is firing technology analysis can centre on paste modes, or if decoration techniques were the interest surface decoration modes would be useful, etc. Therefore it remains a very plastic, malleable analysis. Anyone can return to comprehensive lists of modes and the possible modal combinations or clusters and obtain different kinds of information. One can even build a taxonomical classification out of a modal compilation. Any typology created with modes can be de-constructed and rebuilt focusing on a different aspect, thus it is said that it remains an open classification.

In taxonomical analysis types and varieties are built by ordering attributes in a hierarchy (see fig. 6.1. and 6.2., and also Sinopoli 1991 Fig. 3.2 and 3.3 for explicit examples of the hierarchy of attributes). The order of the hierarchy responds to the archaeologists aims (time, space, content, communication, etc). Once the hierarchy and types have been established it is very difficult to change because the groups formed are mutually exclusive and composed of sherds with attributes. If one wanted to change the taxonomy using another attribute order the segregation and counts would have to be worked again from the beginning[9]. After interpretation and publication, what usually happens is that the first researcher's types become the slate on which everybody else's approach is based, especially if that taxonomy remains the only one in the area for a long period of time, as is the case in Eastern Panamá, where the current taxonomy was composed in the 1980's, based on types created in the sixties and seventies. The only change that can usually be effected upon such a classification is to broaden the definition of certain types or varieties to encompass more attributes. The amount of intra-type varieties can infinitely multiply.

The basic hierarchical order of attributes cannot be changed without creating much confusion among fellow researchers, or changing the entire ceramic picture, essentially composing the entire typology anew with the purposes and points of view of the new analyst. Mesoamerica and the Central Region of Panamá are prime examples of how taxonomic typologies can be modified and improved through decades of ceramic studies and scholarly information exchanges and

[9] How can one examine, say, the diachronic evolution of vessel shape independently, when working with types built through surface decoration attributes? If the chronology and its phases are based on surface decoration changes over time, how can change in vessel form be detected?

conventions that have refined the classification process. However, they are also good examples of how complicated and confusing this process can be. There is still a dazzling amount of names for the classification of Central Region pottery in Panamá, and it is not until now that Cooke's team's work has set a new standard nomenclature. Many people are still confused over previous classifications, namely those of Haberland (1959a, 1959b, 1961, 1978, 1984), Ladd (1964), Lothrop (1959), Ichon (1980), McGimsey (1964), and others, whose types, varieties and sub-varieties are legion, and who gave in some instances different names to similar things (Haberland 1976:118; see also Baudez et al. 1993:52 for the case of Panamá's Western Region; Cooke 1976 and Isaza 1993 built summaries of this plethora of information).

In light of this, to say that there is no theory behind modal analysis, because if it is left open for every purpose then it had no purpose at all (Dunnell 1971:117-118), is not an entirely fair comment. One would think it is accommodating to archaeology's destructiveness and to the fact that once undertaken, an excavation can never be redone. Leaving a back door open through a potential reanalysis of the pottery is a way out of the dilemma presented above. If left open anybody interested in, say, paste temper, could undertake a study of the temper without binding the entire pottery classification to that attribute. Malleability does not mean that modal classifications are not made with a problem in mind. They are made – supposedly – with the potter's "cultural reality" in mind, which when combined with a taxonomical ordering of integration units provides an efficient and comprehensive tool for scientists to communicate with.

Diachronic Scale and Diachronic Measurement

Bailey's (1981, 1983) argument of the adequacy of different temporal scales has been discussed. "The relationship between long-term and short-term processes is an arbitrary distinction relative to a particular set of events as well as the observational scale involved" (McGlade 1999b:note 1). Thin slices of time produce a more refined temporal scale and a more detailed the picture of short-term processes. Clearly there is a limit to what can be told, as the chronological construction will depend on what is being sliced. Pottery will address only certain issues in a diachronic approach, while architecture or writing will not only address other issues, but also will probably produce a different chronological construction.

Hodder addresses the problem of the large scale vs. small scale in archaeology:

> *Archaeological data raise the issue of scale in a most extreme form. On the one hand, the processes observed by archaeologists stretch out over spans of time which are difficult or impossible for individual actors to comprehend or perceive. These are the processes of the long term, the rise and fall of complex political systems, the slow transformation of subsistence technologies, the* longue duree *of* mentalites, *the battle ship curves of styles, and so on. Archaeological emphasis on the long term is reinforced by patterns of survival and recovery. From many periods and areas, few sites survive or few have been excavated with modern scientific techniques. Thus, there is little choice but to talk of the large scale, the generalized, the gross patterning (Hodder 2000:21).*

Hodder insists that the short-term event, the small scale, has been avoided in archaeological discussions or given very little attention. In the East of Panamá, amid taxonomical chronologies built from a handful of sites and dates it is easy to see why[10]. In fact, it is hard to see how the short scale can be arrived at when using a taxonomical approach that can potentially ignore and/or confusingly amalgamate much diachronically traceable variation.

Theoretically, a finer temporal division would give a clearer picture of the short-term cultural processes taking place within the sample. This theoretical temporal thinness translates, in practical terms, in either thinner and thinner stratigraphical levels, or classifying sherds with an infinite multiplication of types, varieties and sub-varieties, until almost every sherd has been separated into a variety, in a taxonomical classification. By contrast, a modal construction allows for very thin slices of time, following the development of a finite number of modes and attributes.

There is a basic difference in temporal resolution between a taxonomical and a modal classification. The type and the variety consist of a combination of attributes. Therefore the scale obtained with a taxonomical analysis is necessarily, and by definition, "thicker" when plotted in time against modes.

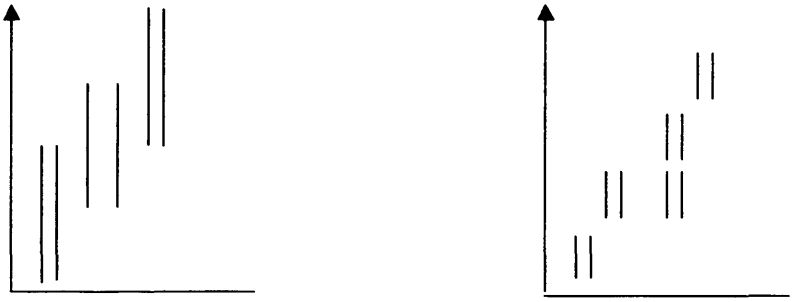

Fig. 2.1. Difference of temporal resolution between Taxonomical and Modal analysis. The y-axis represents time.

As types embrace different attributes, cutting across all formal boundaries, their history or range will be completely different from that of a mode or modal cluster. Types and varieties, by definition, tie ceramic attributes to others, while others are diluted and incorporated into the types and varieties ("attributes or modes...are usually hidden away in the type description" [Ford 1962:16]) which can result in the loss of information and temporal resolution, crucial for building chronology. The very procedure to produce types and varieties is affected by time. "A type defined from sherds in one stratigraphic level will differ slightly from the norm of similar sherds in higher and lower levels, and if such a series is traced far enough, the deviation becomes sufficiently great to justify the definition of another type. The point at which the limit between

[10] see also Feinman and Nicholas 2000, for a discussion on how an approach that is more sensitive to questions of scale is required in Mesoamerican Archaeology.

the two is drawn rests with the taxonomist's judgement because of the gradualness of transition. It follows that the definition of the type depends on the point in time chosen for sampling. A comparable relation holds with respect to areal variation" (Shepard 1954:308).

Change detected at the modal level is by definition a more acute marker of time because the mode is the "minimal unit of meaningful behaviour with regard to material culture" (Lathrap 1962:218), "the indivisible attribute of manufacture, form, technique of decoration, or design" (Phillips 1958:117). If the mode represents the potter's indivisible unit of action or decision-making, nothing can be temporally smaller. Tracing the diachronic change of the potter's conscious or unconscious decisions provides the smallest temporal resolution possible.

A diachronic modal analysis must also use all the non-modal attributes of the pottery. For example, as will be shown in chapter 6, in Panamá Viejo pottery fire clouds (partial smoking) occur but they are an attribute, not a mode. After initially considering it a conscious decision, it was proven that the smoking on the sherds was not deliberate but accidental. Yet if smoking suddenly disappeared from the pottery due to an improvement, say in firing technique, it would then become an important temporal marker. A similar case is represented by erosion on the sherds. It was not intended by the potters for the sherds to erode, but if they did erode, it would be a reflection of several aspects of the pottery itself, the firing technology, and the underground conditions of deposition. Leaving any variation outside the chronology can exclude important information.

Furthermore, it is not only a problem of scale, but also of what is measured. Taxonomical units – varieties, types, wares – measure different things, different attributes at each step of the hierarchical ladder. For example, a type based on surface decoration is measuring that attribute, and if within it a variety was created using vessel form then that variety will measure vessel form, tied to whatever surface decoration was chosen for the type. Thus a chronology made from surface decoration types is measuring the history only of surface decoration. A modal classification measures all the modes and clusters simultaneously, providing all their histories. Modes and modal clusters can account for all the detectable variability and their diachronic development. Even the less popular modes, the outliers, would have to be listed as separate entities.

The Eastern Region has a taxonomically built history based on the characteristic attribute of plastic decoration and other surface treatments, or of paste composition at the first taxonomical level. Consequently, when the chronology is built only surface decoration is measured while the rest of the variability is diluted and hidden within the type description. Chronology in Panamá has been built taxonomically for several reasons, among which are the unfamiliarity with, or unwillingness to use other methods and practical reasons: a modal analysis is far more time

consuming than taxonomical analysis. With tight budgets and short field seasons, with even shorter laboratory time being the rule, it is seen as preferable to get a working chronology as quickly as possible, rather than to think about its possible drawbacks. The taxonomical method affords a quick recipe for this purpose.

As seen in chapter 1 concepts of time affect the histories told. And as will be seen in later chapters, different classifications of material culture – in this case pottery – produce different chronologies. The periodisation of time into stable periods punctuated by fast transitions is, among other factors, a by-product of typological chronologies because once set, a chronological chart of succeeding types *looks* like stable types or periods, discontinued by instantaneous transitions[11]. The creation of time from types, varieties, wares and other units of integration through means such as percentage stratigraphy, seriation, and others (Braun 1985; Ford 1962; Meighan 1959), can create this punctuated image of change (Braun 1983; Plog and Hantman 1990; Renfrew and Sterud 1969) with its potential and frequent – though not inescapable – fusion with evolutionary schemes, adaptive strategies, degrees of social complexity or ideological manipulations as seen in chapter 1, grounded on a linear-progressive conception of time (Hodder 1993:268). This is the essentialist illusion Lyman, O'Brien and Dunnell (1997) speak of, an image that gets mistaken for reality. The method is not at fault here, rather its interpretation, for one cannot help but placing succeeding types – be they achieved taxonomically or modally – on a chart to understand pottery evolution. The mistake is thinking that: a) cultural change only occurred between type transitions; and b) it could not have happened any other way.

Part of the archaeological problem is to ensure the observation of appropriate periods of time to permit the recognition change, or differentiate between its different forms, involving both the overall length of sequences and the number of observation points or analytical units within them. In a site in Australia, for example, four 200-year components were made, out of an 800 year long series of occupations. The units used assume the internal integrity of 200-year time trajectories (treated as behavioural events) separated by instantaneous dividers. Change within the units is ignored, change between them sought, and when found, explained in behavioural terms (Frankel 1988:41-45). The same occurs in the chronological tables for the Eastern Region of Panamá.

The duration of each temporal unit is crucial in considering the rate of change. How can the trajectory of behaviours measured in a 500-year block of time be legitimately compared with one measured in a 2000-year block of time? The comparison of two periods defined in terms of a particular change (one type to the other) can only lead to change seen as the trigger to transition from one stable state to another. A different analysis may not yield the same results. In the words

[11] When considering rates of change they tend to emphasise points of change, rather than plains of uniformity. The gross segmentation of stratigraphic sequences or assemblage trajectories artificially biases explanations towards

of Frankel, "we need a clearer understanding of how to create the data-base, by excavation and later construction of units of integration (that is, how to classify artefacts), before broader issues of explanation can be directly addressed" (1988:42-47).

A More "Representative" History

A history only of the majority or of what is thought of as the majority, is an incomplete history. Archaeologists can ill afford to continue making histories that do not at least attempt to take into account as much as possible of the spectrum of variability in the samples. The determination to build general explanations for human behaviour and to discover trends in material culture, (Dark 1995:21-24; Fritz and Plog 1970; Steward 1955:209; for a critique of this stance see Shanks and Tilley 1987, 1992; Shanks and Hodder 1995:9), has driven archaeologists to generally use the most "representative", "diagnostic" or "striking" material, leaving out much of "other", "unclassified", "un-typified" data (see Keech 1995:6 above). In the case of chronology taxonomical classification, it is said, geared towards a "useful" chronological reconstruction of events, results in just this: the eradication and simplification of culturally created differences in the pottery, by emphasising the construction of temporal phases through some types, while ignoring others. In the Eastern Region plastic or painted decoration have been used while most of the undecorated material remains unclassified.

Hodder argues that to do so, is to treat all variability as "noise", as it has been treated through recent decades in archaeology, arguing that despite the New and Processual archaeological emphasis on variability, the aim was always to reduce variability to "trend + noise", and this emphasis on general trends has continued in most postprocessual archaeology (Hodder 2000:26). Needless to say, the essentialist culture-historical paradigm in vogue when the first histories of the Eastern Region were built also emphasised these general trends.

Furthermore, the Eastern Region of Panamá suffers from difficulties that only compound the chronological situation. The climate and lush flora of the Eastern Region guarantee logistical difficulties for research, and the survival primarily of lithics and undecorated pottery, adding to the image of "nothingness". The Central and Western Region of Panamá have been more intensively studied, with a stronger theoretical background. Hence, the taxonomical classifications carried out for these areas, especially the Central Region, are much more sophisticated, with the addition of some new modal classifications (Isaza 1993; Linares 1980; Sanchez 1995) or the use of the type-variety: mode approach adding to the already vast quantity of published material.

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metastable equilibrium (normality-change-new state of normality), instead of simple dynamic equilibrium (change-change-change). (Frankel 1988:42-47).

Most of Eastern Panamá's chronology relates to Central Region "trade" material. Surviving pottery in the Eastern Region consists mostly of undecorated utilitarian wares, and to a lesser degree of plastically decorated wares lacking painted decorations. Therefore mostly diagnostic "trade" ceramics such as the Central Region's lavishly decorated pottery have been used to cross-date by association. Thus out of a combination of theoretical and practical reasons, images arise of advanced and backward, simple and complex peoples that then affect the histories built almost in a vicious circle, in a self-reinforcing way. The reasoning generally starts with the *a priori* assumption that the Eastern Region's material culture is very simple, so the "advanced", more "complex" Central Region pottery must be used to obtain chronology and absolute dates, because it is so much "better" for this purpose, thus Eastern Region peoples are simpler and backwards and their material culture very simple[12].

Consequently, the temporal segmentation of the Eastern Region ends with very long periods of ceramic stability (and therefore it is implied, cultural stability, which in a linear progressive light is seen as stagnation), that refer indirectly to the chronology of the Central Region. The current chronology has periods that span up to seven hundred years (also a problem for the archaeological record of Lower Central America, Fitzgerald 1996:61), in effect, a meaningless figure, and this is all a possibly unintended by-product of the dearth of absolute dates, and the measurement of only one attribute, plastic decoration (Table 3.4.).

The concomitant view of a socio-culturally stable or primitive people is not only reinforced by the chronology, but also by the synchronic interpretation. When Walker and Lucero (2000) discuss agency theory, they argue that the functions of objects are not static and that cooking pots, for example, while seemingly utilitarian or domestic, can become ritual artefacts if an actor takes them out from one cultural context, say domestic, into another, say religious or ritual (for example, the "utilitarian" looking pottery offering of Tumba 1, see chapter 5). The functions of objects do not ultimately reside in their forms, but rather in the different meanings created by ritual and political agents. It is therefore why simplistic utilitarian/non-utilitarian functional classifications lead to equally simplistic inferences of prehistoric activities from archaeological contexts. Obvious interpretations based on the assumed functions of artefacts can be deceptive when detailed contextual clues are not considered (Walker and Lucero 2000:133). In this case, the unconsidered clues can be all the evidence on cultural variability usually ignored: all the outliers, the "noise", the non-representative pottery attributes.

Sassaman (2000) has qualms about current histories for hunter-gatherer groups that can also apply to the typification of Eastern Region cultural complexity.

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[12] Again it must be stressed that even if in scientific media this trend has been corrected of late, the popular media still strongly endorse it, and an essentialist, linear progressive view of history with all the negative connotations referred to in chapter 1.

> *Hunter-gatherer prehistory has a disturbing anonymity about it, for not only are its subjects unknown to us, their authorship is thoroughly subjugated by the very methods archaeologists use to construct prehistories. Artifact typologies downplay idiosyncratic variation in favor of "normative" properties. Stratigraphic interpretations presuppose unilineal sequencing of events. Cross-dating reduces temporal variability by synchronizing form. Functional analyses of form overlook variations in use. And finally, inadequate chronology ensures that none of these shortcomings come to the fore, preserving, as it does, the quiet, faceless account of an ancient past without subplots, contrary characters, or unpredictable endings (Sassaman 2000:148).*

And this issue troubles authors not only dealing with hunter-gatherers, or in the Eastern Region, but also in the Intermediate Area for example. "Too often we repeat the assumptions of the past, "explaining" these societies by reference to their acquired Mesoamerican or Andean characteristics, and avoid looking deeper to see their internal nature, their structure, and the reasons for change and stability...Often more complex is seen as inherently better. But Intermediate Area peoples were seen as not as innovative and able or willing to change as were their civilized neighbors; they were the passive recipients of innovations made elsewhere"[13] (Sheets 1992:19; Fitzgerald 1998:154-155; Lange et al. 1992a:272-278). Every reference to the Intermediate Area in the preceding quotation could be replaced with the Eastern Region, and there would be no difference. In a specific case, very similar to what occurs in the Panamanian Eastern Region, because the Ulua Polychrome tradition of Honduras "was considered an outgrowth of Mesoamerican (Maya) culture, relationships with archaeological cultures south and east were not explored. And, perhaps because peripheral cultures were believed to be less complex than the core culture (Mesoamerica), Ulua Polychromes were treated as a cohesive whole across their geographic range and throughout their temporal span" (Joyce 1993:61).

Thus a fine balance must be struck between a taxonomical approach that characterises types according to a few attributes considered important while others simply complete the type description, and a modal analysis that can multiply infinitely the constructed classes in its attempt at a completely comprehensive description (Baudez 1967:3-4). Again, it is thought both methods are not antagonistic, but complementary. A temporally sensitive and comprehensive modal analysis could be the perfect match for an efficiently synthesised taxonomical synchronic characterisation.

Type-Variety: Mode Approach

In Mesoamerica the mode has been used as part of the type-variety system of classification. That is, the established taxonomical types and varieties are further subdivided into their constituent modes, so that for example particular design elements can be separated to make the classification and thus the chronology thinner, working at a smaller scale. Sánchez and Cooke for example have used it to recognise various design elements in Cubitá Style pottery in Panamá's Central

Region (1997; Sánchez 1995). Most other works in Mesoamerica and the Intermediate Area also use this method (Beaudry-Corbett et al. 1993:4), for example Gifford's in Honduras (1976), Flannery and Marcus' in Oaxaca (1994), and many other studies in Costa Rica, Nicaragua and the rest of the region (Baudez and Becquelin 1976; Baudez 1976; Baudez et al. 1993:53; Haberland 1976; Knowlton 1996; Linares 1980; Snarksis 1976, 1982). The advantage of its application lies in that it combines both approaches (modal and taxonomical), and in the building or refining of chronology from existing taxonomical classifications without composing them anew. It seems to be the most efficient, expedient and useful way to classify ceramics, designed primarily to address temporal questions, and secondarily, spatial questions (Beaudry-Corbett et al. 1993:4).

Conclusions

Even if both methods can be seen to come from different perspectives (essentialist or materialist) and produce different results it is not intended here to say that one is "good" and the other "bad". They are just suitable to different approaches and provide alternative paths, with pros and cons, to work with the material (Borgogno 1980). When combined, such as in the type-variety: mode approach, they are an effective means of building fine chronology and comprehensive synchronic characterisation.

Although the taxonomical method can be seen as essentialist and the modal as materialist, one can ultimately say that even if things are always in a state of becoming, and a type of pottery never really is a stable type, there is no other humanly comprehensible way of displaying variability than through essentialist terms, i.e., charts, graphs and other tools that render reality understandable. It is difficult to see how else one could grasp ceramic variability and its history without some sort of order. Regardless of how an assemblage is classified, a typology or summary must be produced. There is no other way to understand and interpret ceramic variation. Synthesis is unavoidable and indispensable for communication among archaeologists and with the public, and a taxonomy of attributes is the most expedient way.

Taxonomical classification has created Eastern Panamanian chronology, organising its history in an understandable stream from the earliest occupations to the Spanish conquest. Nevertheless, modal analysis provides a different, useful and a "...far more discriminating tool for exploring most issues" (Beaudry-Corbett et al. 1993:6). Although more time consuming – frequently a determining factor – it offers features not possible with strictly taxonomical methods to practise classification and achieve chronology. It "makes it possible to explore and organize in various ways large amounts of data and to explore potentially meaningful relationships among them" (Briggs 1989:160). For intra-site studies (smaller scale), modal analysis can produce a finer

[13] The very name Intermediate Area is telling. It is named so in reference to it being sandwiched between two "high civilisation" areas, while within it only "lower societal forms" such as chiefdoms existed. It is not even worthy of a name with reference to itself.

chronology through un-clustered modes and a more comprehensive synchronic characterisation through modal types. But for inter-site comparisons taxonomical synthesis of the modal data is necessary – effectively combining both methods – to reduce the potential high number of modal types and form higher units of spatial and temporal integration for studies of the larger scale, which would purportedly afford a more culturally real classification and a finer spatio-temporal scale.

Many archaeologists share the belief that that type-variety classification should be combined with modal analysis for added interpretive power in culturally real terms (Rice 1987:284; also Beaudry-Corbett et al. 1993:6; Baudez et al. 1996; Gifford 1976; Rouse 1960). Placing the modes, modal types and other units on a chronological table or in a taxonomical chart is the next necessary step in the construction on of explanations. Indispensable as they are, studies of the wider scale, temporal and spatial, would be impossible without larger units of integration of the material, which are basically taxonomies of ceramic types. Thus this dissertation hopes to prove that while both methods are complementary to each other, when used separately they produce different historical accounts.

Even if modal types are similar to taxonomical types in that they can hide and dilute attributes within their descriptions, in a synchronic analysis this is of little relevance. The type description is necessary in any case and it can include all the variation not expressed in the type name. However, in a diachronic analysis all the modes and attributes need to be listed because if even one is missing from the chronology then there is the potential for the dilution and exclusion of information. A more "inclusive" time can be built using a modal approach, including every mode available, popular and unpopular, modes and attributes/features alike, while a more understandable synchronic formal content can be described through taxonomical terms.

Effective attempts of integrating the material into larger units for broad analysis need an adjusted frame of reference, with which the integrated results from different sites or regions can be successfully compared. What is truly needed is for archaeologists in general to come to an agreement as to which method or main unit of study to use (as each method creates its own temporal scale) to standardise observations, otherwise, the spatial and temporal confusion in which Eastern Panamanian archaeology is immersed will never be solved. This has been solved in great part in the Central Region of Panamá and in Mesoamerica, as explained before, by the adoption of the same attribute hierarchy in taxonomical classification. Also the adoption of the type-variety: mode approach has been an invaluable tool for chronological constructions in areas with already complex taxonomical classifications without rebuilding them anew. However, in areas with little research such as Eastern Panamá, building the chronology from the start using the combination of modal and taxonomical analysis advocated here would be a fruitful and interesting exercise, to compare its results against those of other regions.

In the following chapters the natural and cultural background of the pottery sample from Panamá Viejo will be introduced, to give the reader a clear picture of the archaeological site and the region surrounding it. First, comes a compilation of the most salient archaeological investigations carried out in the Eastern Region of Panamá, which will serve to compare and to integrate Panamá Viejo's assemblage in a regional scale; followed by a description of the natural setting and past archaeological research in Panamá Viejo itself. This will be followed by the construction of time using both methods of classification, and their basic units, types vs. modes.

Chapter 3
Previous Archaeological Investigations in the Eastern Region

Introduction

Panamá has been divided, for scientific purposes, in three "cultural regions" or "interaction spheres" (see figure 3.1; see also Cooke 1976:122, 1984). These are the Western, Central and Eastern regions, crossing the continental divide from north to south. Roughly speaking, the Western Region occupies the modern Provinces of Chiriquí and Bocas del Toro; the Central Region by the Provinces of Veraguas, Herrera, Los Santos, Coclé and the western part of Colón; and the Eastern Region by the Provinces of Panamá, the eastern part of Colón, Darién and the Kuna Yala reservation. These three regions are assumed to represent some sort of cultural or political division of the country in Precolumbian times at least immediately previous to the Conquest, and as Panamá Viejo lies in the Eastern Region this chapter will provide a cultural context for the site.

The Eastern Region covers an area roughly from the district of Chame in Panamá Province to the Colombian frontier and beyond, in the vicinity of the Gulf of Urabá in the Caribbean Sea, and down to Cupica in Colombia on Pacific shores. The supposed dividing line between the Central and Eastern Regions at Contact, lay supposedly near the town of Chame, ruled by a *cacique* (chief) of the same name. This "line" consisted of a linguistic barrier, to the east of which, according to the Spanish, most of the Indians spoke the Cueva language, with its regional variations, but nevertheless understandable throughout the entire territory, all the way to the Gulf of Urabá. To the west of Chame, the language was entirely different, to the point that the Indians from the Cueva area needed translators to communicate with their westerly neighbours (Romoli 1987:15). Thus, this division is useful for the Contact Period, but it cannot have been a stationary one. The Eastern Region is then, at least in Contact times, Cueva country and the site of Panamá Viejo falls squarely in it.

According to Drolet and Cooke, the environment of the Eastern Region is an extension of the tropical forest environment of northern South America, while further to the west, along the Pacific watershed, more arid conditions, higher altitudes, and the lack of large drainage systems, result in culturally significant physiographic conditions. The cultural complexes defined for the Central and Western Regions of Panamá share very little similarity to the ceramic industries, subsistence adaptations, and settlement patterns seen in the moister tropics of Eastern Panamá and northern South America. This physiographic difference between the wet tropics and more arid lands has been argued to form a cultural boundary along with the language barrier, (Cooke 1973:398) with each division showing clear archaeological evidence for separate traditions (Drolet 1980:39).

A "culture area" scheme with temporally and spatially immutable boundaries seems inappropriate. Cooke has proposed a revision of this matter, instead using the concept of three major 'interaction spheres' in Panamá during the last 1500 years of the Precolumbian period, characterised as areas of "cooperation without domination" (Lange 1992c:434). Within each one, relations between larger and smaller settlements, 'cores' and 'peripheries', and suppliers and recipients of goods changed diachronically while reacting to inadequately understood demographic and economic parameters. The western and eastern spheres extended beyond Panamá's current frontiers into Costa Rica and Colombia, respectively. It is seen as appropriate to now use the terms Gran Chiriquí, Gran Coclé and Gran Darién for the Western, Central and Eastern Regions, respectively (Cooke et al. 2000:154).

This summary is given therefore to familiarise the reader with the cultural context in which the site of Panamá Viejo is immersed and will enable a comparison of the results of the typologies created for Panamá Viejo in chapters 6 and 7, with the extant pottery types and chronology of the Eastern Region. Moreover, most of the papers or publications that refer to Oriental Region material are obscure and hard to find, consequently this chapter also hopes to serve as reference for future researchers who might want to explore the literature on the Eastern Region with relative ease, avoiding burdensome source-digging. Included here is material from sites most relevant to that of Panamá Viejo. Other tangentially related studies of the Region are included in Appendix 2.

Archaeological Research in the Eastern Region

The Eastern Region of Panamá, or Gran Darién (Cooke 1998b:162; Cooke et al. 2000:154) has been the subject of scientific studies since the European Contact Period. The accounts of diverse chroniclers, attempting to record the fauna, flora, physiography and inhabitants of the region are abundant. Among them, Fernando Colón, Vasco Núñez de Balboa, Pedro Mártir de Anglería, Pascual de Andagoya, Gonzálo Fernández de Oviedo y Valdez, Bartolomé de las Casas, and Martín Enciso (see Altolaguirre y Duvale 1914; Fernández de Navarrete 1955; Fernández de Oviedo 1959; Sauer 1966; Romoli 1953, 1987). Around the beginning of the 17th century, as the area became practically deserted with the extermination of the local "Cueva" Indians, European eyes shifted towards Central and South America, leaving the Darién region scientifically untouched and unobserved for centuries to come, a "devastated hinterland of limited Hispanic Colonization" (Helms 1976:7). New aboriginal groups apparently moved in during the following centuries (Romoli 1987, Torres 1974:9), without drawing much attention from the Spanish.

"The Cueva Indians of early Colonial Darién, are considered by many researchers to be archetypical of Intermediate Area chiefdoms before the conquest, and of drastic deculturation after it. Quickly abandoned by European settlers, the regenerated forests became havens for

Native American cultural groups, which having survived...violent confrontations, sociopolitical dislocation, and obligatory subsistence reorientation...opposed European and Neoafrican encroachment, and still retain a considerable degree of political and cultural independence (Kuna, Choco [Waunaan/Epera])" (Cooke 1998a:174).

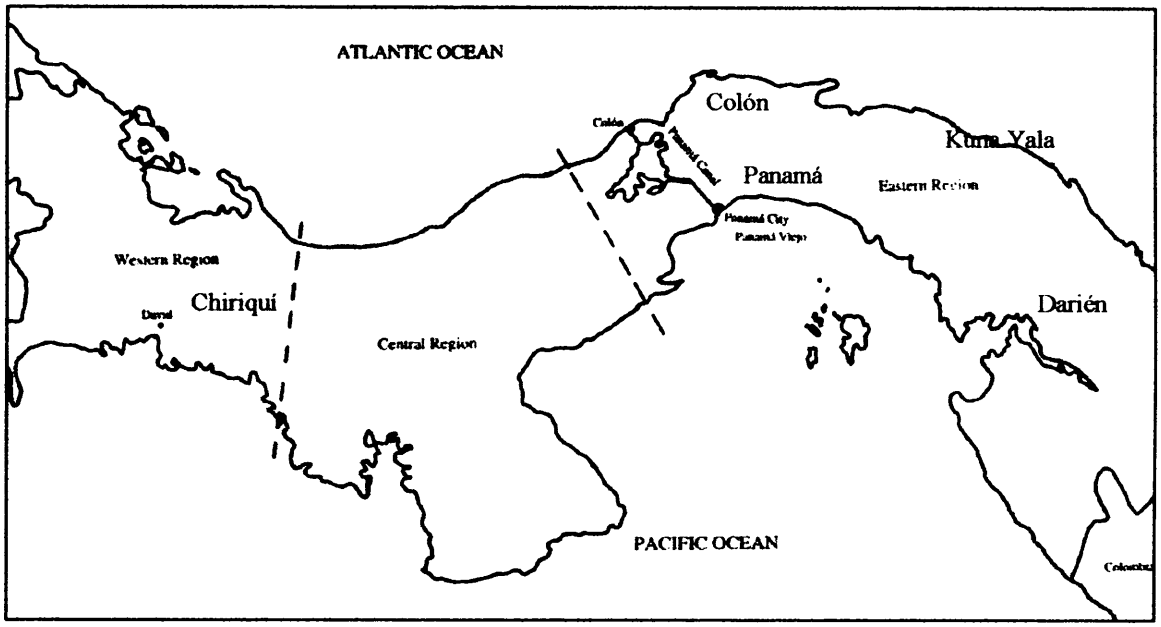


Fig. 3.1. Map of Panamá and the three Cultural Regions according to Cooke (1976).

It is only in the 19th century when renewed interest in the region awakens, due to the aspiration of several world powers (Great Britain, France and the United States) of building a canal through Central America. One of the first explorers during the last century was Laurence Olephant, a British citizen who conducted research in the Bayano and Darién regions, describing the flora and fauna (Olephant 1865). Three French explorers also worked early in Panamá. Luis Catat, excavated Indian burials in the plains of Cana and near the Loma del Espíritu Santo (Catat 1889 in Torres 1975:44); Armand Reclus produced extensive descriptions of the oriental region in the late 19th century (1997); and also Menart de Saint-Maurice in his "Contribution a L'Etude de L'age de la Pierre dans l'Isthme de Panamá" (1889 in Miranda 1974:13).

Soon the country saw various foreign explorers and adventurers coming in to investigate and collect "antiquities". Holmes published a preliminary classification of Chiriquian materials in 1888. MacCurdy followed with similar material in 1911. One of the earliest and most thorough explorations of the Eastern Region was undertaken by Sigvald Linné (1929) in the 1920's, surveying many sites all over the Bay of Panamá, Bayano, Darién, Kuna Yala, and the Pacific Coast of Colombia up to Cupica. His extended bibliography is especially useful in tracing very early work in the Isthmus. In the late 40's archaeological discoveries were reported from the Canal Zone, like at Far Fan beach (Marshall 1949). Samuel K. Lothrop, who excavated the

famous Sitio Conte in the Coclé region (1937, 1942) in the 1930's, also explored Venado Beach in the 1950's, apparently a key site in the Oriental Region. It was a major settlement in Precolumbian times, that according to Lothrop bore close relationship with the cultural remains found at Sitio Conte and later Panamá Viejo (1954, 1959). Angel Rubio gives a comprehensive summary of the most important research carried out in the country up to the first half of the 20th century (Rubio 1950:55-64)

During the mid 20th century Neville Harte reports packed burials with a ceramic offering in caves in a tributary of Madden Lake. MacGimsey (1964), in the Darién Pacific coast, finds pottery with varied plastic decoration (Miranda 1974:21-23). In 1958 a Belgian expedition led by King Leopold excavated the ruins of Santa María la Antigua del Darién in the western shores of the Gulf of Urabá (Verlinden, Mertens and Reichel-Dolmatoff 1958), and various other expeditions revisited the site (Arcila 1986; Reverte 1968). The Stirlings later explored the Precolumbian remains at Taboga and Taboguilla in the Bay of Panamá, in 1960. In 1964 Roberto de la Guardia conducted a survey of several sites in the eastern region, near the Utivé river (Miranda 1974:29). Leo Biese explored Panamá Viejo (1964). De Recasens and Oppenheim (1945), and later the Reichel-Dolmatoffs revisited Cupica (1961), and built a ceramic sequence in the site, with the same material witnessed by Linné in the twenties. José María Cruxent explored the Pacific coast of Panamá (1959). Near Madden Lake, Russell Mitchell (1962) localised the Tumba Vieja and La Tranquilla sites, from which he recovered ceramics similar to the ones found at Venado Beach and Panamá Viejo.

During the seventies, interest was renewed in the area due to the creation of the Patrimonio Histórico offices and the damming of the Bayano River for a hydroelectric power plant. This led to an intense search and rescue operation of many sites in the upper Bayano, and many other sites not in immediate danger were located and excavated in the neighbouring region as well. Thanks to the efforts of Reina Torres de Araúz (1971a, 1971b, 1974, 1975) Roberto de la Guardia (1971; De la Guardia et. al. 1970, 1971), Máximo Miranda (1972, 1974, 1978; Miranda and De la Guardia 1971), Sonia Meléndez, Robert Drolet, Richard Cooke, and Marcela Camargo among others, valuable information was recovered pertaining the Precolumbian occupations of the Eastern Region.

During the eighties and nineties more research was carried out. Luis Almanza excavated Engineer Hill, near Venado Beach. Carlos Fitzgerald conducted a survey of several sites in the region around Chame, looking to define the "frontier" concept of this supposed buffer. And very recently, Aguilardo Pérez discovered and excavated several sites, during the Environmental Impact Assessment for the construction of the Corredor Sur, a ring road for Panamá City with a longitude of at least 20 kilometres that runs through an area of mangrove, immediately to the east of Panamá Viejo across the Río Juan Díaz (personal communication from the three investigators).

As there are very few detailed classifications of ceramic material recovered in the Eastern Region, the most salient ones shall be outlined to compare with the latest contextualised and dated materials from Panamá Viejo, and to review the methods used. A revision of these studies shows that the widespread conclusion among archaeologists is a probable ceramic homogeneity in the entire Eastern Region, where a marked preference for plastic decoration is noticed. The question would then be, does this uniformity, observed in the ceramics, extend into the social, political and ideational realms, breaking spatial and temporal barriers? (Cooke 1973:401; 1998a:104)?

This revision also shows how Panamanian archaeologists were classifying ceramic materials over almost 80 years of science in the Eastern Region of Panamá. It illustrates a field in which most of the practitioners were firmly within the culture-history paradigm camp, lacking in theoretical or methodological discussion, using the taxonomical method of classification. There is much discussion about the results of classification, the integration units created, but not of the implications that the methods of classification entail for historic constructions.

Nevertheless, different scientists at different times have produced useful typologies while trying to untangle the confusion caused by sporadic explorations in sites all over the region, without a general intervention strategy. This has created diverse classifications of artefacts, with different names, even when dealing with potentially the same types and varieties from site to site. The end result is a plethora of names and classifications for a great amount of material that is very similar, or almost identical. Another problem is the paucity of radiocarbon dates, with only two or three reliable dates for the entire Eastern Region before the Patronato Panamá Viejo excavations in the nineties (Cooke, personal communication, 2000). This adds to the poor quality of previous interpretations of the material, as the only possible dating method was through association with already dated ceramics, usually from the Central Region.

The archaeological investigations from the Eastern Region that are the most relevant for inter-site comparison to the material from Panamá Viejo will now be outlined, summarising the typologies and chronologies they helped build. They are the investigations at Venado Beach, Far Fan, Taboga, Biese's Panamá Viejo, La Tranquilla, Miraflores, the Costa Arriba of Colón and Cupica. There are also other works in the Eastern Region that are not directly related to Panamá Viejo, but are still important to understand the archaeological background of the Region in general. These will be included in Appendix 2. Their inclusion in this dissertation is not only to situate the reader in context, but also to construct a bibliographical compilation of archaeological material for Eastern Panamá.

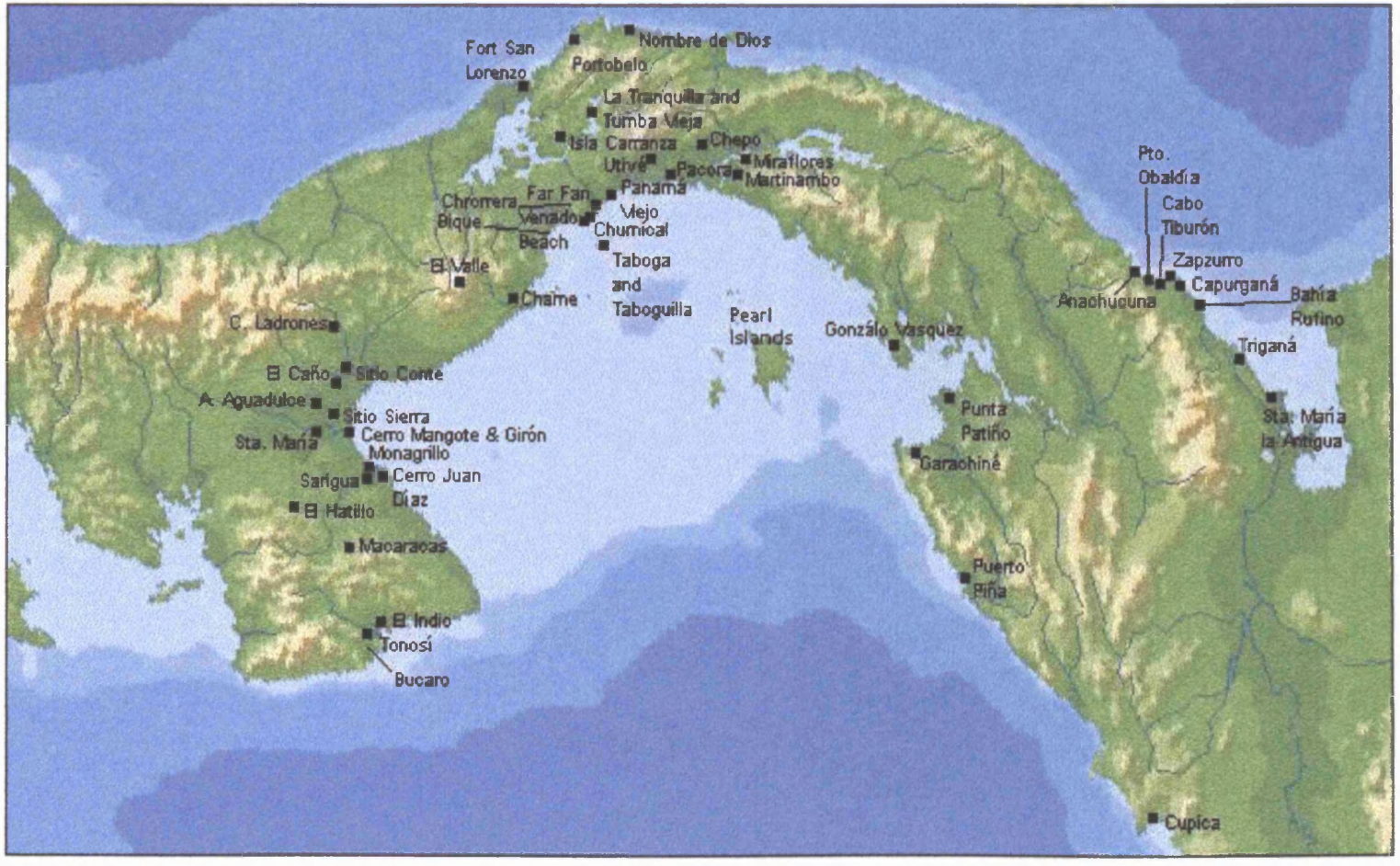


Fig. 3.2. Map of Eastern and Central Region of Panamá with main sites cited on text. Source Map from Microsoft Encarta Encyclopædia 1997.

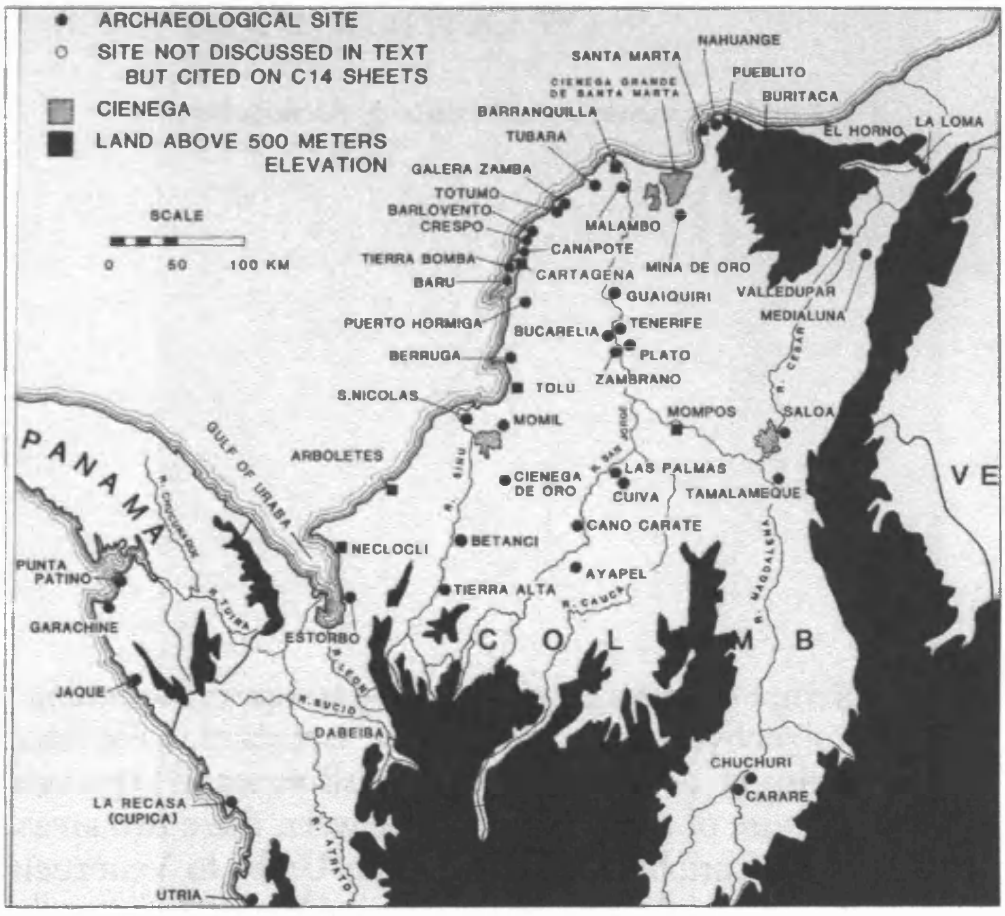


Fig. 3.3. Map of eastern Panamá and western Colombia, with main archaeological sites mentioned in the text. Source Bray 1985 Fig. 11.1

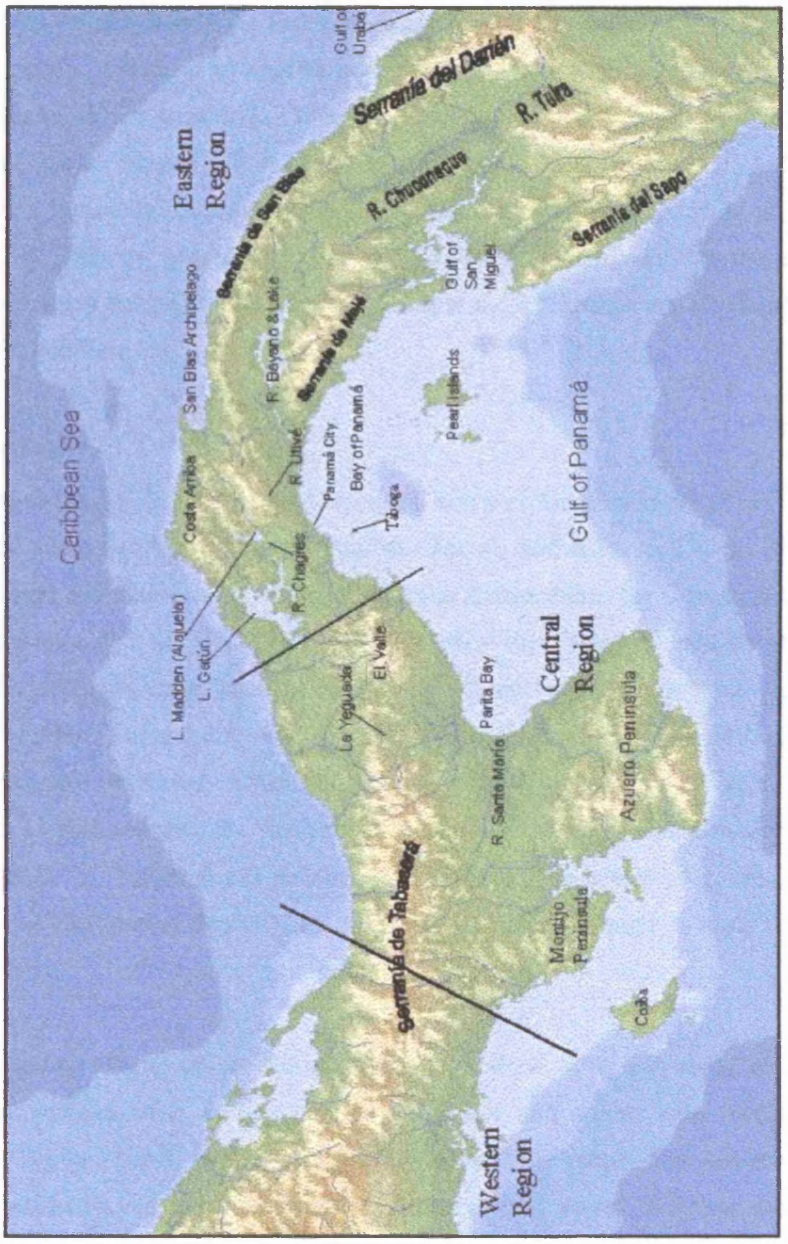


Fig. 3.4. Physical Map of Panamá with main features mentioned in text. The lines indicate the supposed division of the country into the three Cultural Regions in Precolumbian times. Map from Microsoft Encarta Encyclopædia 1997.

Venado Beach

At this site, Lothrop and others found an extensive Precolumbian burial ground, with more than 200 tombs being excavated on or very near to the coast line (Lothrop 1954, 1959, 1960; Mitchell et. al. 1958). They were burial urns, extended and flexed burials, group burials, probable sacrificial victims accompanying the burials, decapitations, broken vertebral columns (at the lumbar vertebrae) and necks, dental extractions, diced bodies, among others. A Cubitá Style (AD 500 – 700) human effigy vessel was found at Venado Beach (Cooke 1998a:Fig. 8.6 d; see also Bull 1958, 1961). Incised Relief Brown Ware was found here, as well as the later Votive Ware. Lothrop announced a date of 1000 bp (Groningen No. 2200) for the site (Biese 1964:49; Lothrop

1960:96). "At Venado Beach the literature suggests that the abundant...shellwork...is coeval with painted pottery, which is so similar to the Cubitá materials from Cerro Juan Díaz that it should be included in the same style. Outwardly, Cubitá style sherds and vessels from Venado Beach, Panamá Viejo, Taboga and the Pearl Islands suggest local manufacture, rather than trade from the Azuero Peninsula" (Cooke 1998a:102). Sánchez, in a recent revision of the excavated material now at Peabody Museum in Harvard University determined that the overwhelming majority of the pottery belongs in the Cubitá and Conte styles (Sánchez and Cooke 1997:5; Cooke et al. 2000:155, footnote 15).

Far Fan Beach

In the 1940's, at nearby Far Fan an archaeological site was found, composed of refuse middens located almost on the beach itself, very similar to what we find at Panamá Viejo, Venado Beach, Bique[14], Chumical and others, forming a string of sites all along the Pacific coast in the immediate vicinity of Panamá City. Marshall (1949:126-7) reports three types of form of pottery vessels, dishes, bowls and bottles, apart from the burial urns. "The clay itself is of great variety, firing to many shades of white, tan and red. The slip varies from an almost transparent "wash" or "float" to a thickly encrusted sheathing. Color and material may be the same or different. In almost all cases lips are painted red and the interiors of plates and bowls polished and/or slipped red" (Marshall 1949:127). The temper is generally of sand, but there is also grog, crushed shell, or a mixture of two or the three of these. Firing was also uneven producing red, black and tan colours in the same sherd.

Decoration of the sherds include modelling, incision, appliqué work with reeds, or other types of punctation and incision, also finding pointed nodal lips and double rims (probably the later Incised Relief Brown Ware). Incision is generally naturalistic rather than geometric, and often serves as an outline for red and black paint (to be later called Zoned Bichrome Ware). Most of the sherds, though, were severely eroded.

Polychrome painting is present, and he defined two styles, one of black and red lines over a white paste, and another of black and dark red on white paint over a red paste. Many of the sherds present a thick incrustation of carbonised material, suggesting that production was for domestic use rather than as intentional grave furniture. "Utility is suggested by the plainness of most vessels, in contrast to the few exotic polychrome specimens and effigy jars" (Marshall 1949:127).

[14] Located in the Arraiján district, archaeological features still survive after years of looting and erosion from the sea. I visited the site together with Richard Cooke and Alvaro Brizuela in 1997 and we observed a good quantity of pottery sherds and human bones a few metres from the water's edge, though I cannot say what types of pottery we saw.

The Stirlings and Taboga

The Stirlings surveyed Taboga, Taboguilla and Urabá islands in the Bay of Panamá, to the south of Panamá City. At Taboga Island they distinguished three different pottery wares, Buff, Orange Slipped and Red Slipped wares. Typical pottery forms are globular and subglobular bowls with restricted orifices, hemispherical bowls, and *olla* shapes with outflaring rims or collared necks. Also present are pedestal bases which can be short and squat, or tall and slender, and ring base bowls (Stirling and Stirling 1964:299).

Unslipped buff ware

It is the most abundant. The majority of these vessels were more or less globular jars with short collars and outflaring rims with thickened lip. The surface colour varies from orange to yellowish. Sometimes both variants can be found on the same pot as well as grey, orange and brown firing clouds, so the exact shade is not particularly significant. The exteriors of the pots generally are well smoothed, but the interiors are not as well finished. The surface is slightly rough to the touch, and sherds that have weathered are sandy and granular on the surface. It is probable that this ware was self-slipped. The colour of the paste varies considerably, with incomplete oxidation being observed, but also completely oxidised sometimes. These variations hold for very thin as well as very thick ware. Temper is granular with angular particles, medium to coarse in texture, sometimes used moderately, sometimes heavily. Flakes of white and red usually are mixed in. The pottery does not break evenly; the fractures are rough and granular. Thickness in buff ware varies from 6 mm to 23 mm (Stirling and Stirling 1964:306). This description is almost identical to that of the pottery recovered at Panamá Viejo (see chapters 6 and 7).

Orange Slipped Ware

The shapes in general are the same as the buff ware, except that there were a few shallow bowls with outflaring rims. The slip is moderate orange with splotches of light brown, the slipped surfaces often showing the marks left by the polishing stone. Particles of mica glisten on the surface. The orange slipped surface is smooth but not slick, but the unslipped interiors are often rough and granular. This slip seems to be more thinly applied than is the red slip. The paste is a moderate orange in colour varying to light brown. Frequently the rims, and sometimes the interiors are painted red. When orange slipped ware is painted red, the result is a much truer red than that seen on red slipped ware (Stirling and Stirling 1964:306-307).

Red slipped Ware

Shapes were less restricted than with the other wares. In addition to the typical buff ware forms, there were globular jars with straight collars varying from 2 to 4 cms in height. There was one bowl with a thickened, incurving rim. The slip varies in colour from moderate to reddish orange, to moderate reddish brown and dark reddish orange. The exterior is well smoothed and the red

slip is polished and slick to the touch. Usually the slip contains mica. The interior is sometimes smooth but often is left rough. Marks of the polishing implement are frequently visible on the surface, giving it a streaked uneven lustre. The slip itself is moderately heavy and is abraded in many cases. In colour the paste is weak and yellowish orange to weak orange and light brown, generally evenly fired. Red slipped pottery, which is decorated, is finer tempered and breaks evenly. The texture is generally medium to coarse with angular tempering material including mica. In some instances white quartz is abundant giving the fractures a "snowy" appearance. Red slipped ware varies in thickness from 6 to 12 mm (Stirling and Stirling 1964:307).

Summary and other Taboga Types

Overall, the typical ceramic shapes in the Taboga Island sites are globular and subglobular bowls with restricted orifices, hemispherical bowls, and *olla* shapes with outflaring rims or collared necks. Also pedestal and ring base bowls, with some pedestals being short and squat, others tall and slender. Larger vessels were *olla* forms of buff ware decorated with rough combing, probably done with the edge of a scallop shell. Often these vessels had a red painted lip. Commonly the *olla* bodies were roughened by brushing (Stirling and Stirling 1964:308).

At Taboga they also found several painted pieces. At their site of Taboga 4 the painted ware consists typically of red and black stripes on a buff or cream slip. Sometimes black stripes were on a red slip. Frequently either the entire interior or exterior, or both, were red slipped. The red colour varies from orange to red. The more elaborately painted examples were bowl forms, frequently with flat bevelled rims. The pedestal bowls are typically decorated with Black and White designs on an orange (red) base (very similar to the ones found in Panamá Viejo, Tumba 1), sometimes on exteriors or interiors or both of bowls. Frequently only red paint was used, often applied only to lip or neck of the vessel. Also simple Black on Red designs are observable.

Two types of red paint, one a true dark red, other an orange which varied from yellowish to red are sometimes seen on the same vessel to give a contrasting design. Sometimes white or cream was used as a base, with designs in red or orange. In at least one instance the orange designs were outlined with narrow black lines. Modelled designs were infrequent. Some subglobular bowls were decorated with curving, parallel, raised ridges impressed with scallop shells. These vessels had horizontal loop handles. Sherds from two plain red bowls of thin hard ware were decorated with rows of raised bosses. Incising was rather common and was usually in connection with zoned designs (Zoned Linear Incised Type). Punctate decorations were almost invariably of the zoned variety. Large *ollas* have brushing and scallop combing, especially on the neck.

At Taboga Island, in 1997 I found pottery fragments coinciding with the Stirling's Red Slipped Ware, but with a Black Painted decoration. This decoration consists of a pattern of black painted lines and geometrical figures around the inner rim of a plate, very similar to the decoration found

on the pedestalled plates in Tumba 1's funerary offering in Panamá Viejo (see Fig. 5.18.). I also found numerous fragments similar to their Unslipped and Orange Wares, and many others bearing plastic decorations, mainly incising, stamping, scratching, and modelling.

Taboguilla Island Pottery Types

At Taboguilla, a completely different ceramic component was found. They have called them the Taboguilla Painted Wares. Their full description is hereby given (Stirling and Stirling 1964:316-318). The list of types is as follows:

Trichrome – The majority of trichrome vessels were pedestal base bowls.
Black-on-white exterior, black-on-orange interior with the orange overlapping the lip. A variant of this has a plain orange interior.
Black-on-white interior, orange exterior. A variant has a white-on-orange exterior.
Black-on-orange interior and exterior with white on the base.
Black, white and orange exterior, black-on-orange interior.
Black, white and orange interior, orange exterior.
Black-and-white-on-buff. One collander had this decoration.

Bichrome – These combinations usually were applied to high-necked globular vessels.
Black-on-white exterior.
Black-on-orange exterior.
Orange-on-white exterior.
Black-on-red, interior or exterior.

Monochrome – This ware is commonly in the form of globular pots with outflaring rim.
Plain orange, interior and exterior.
Plain orange, exterior.
Plain white, exterior.

They also describe the several plastic decoration techniques found. Bold incising, Light incising, Narrow line combing, Multiple line combing, Indentation, Appliqué - filleting, Animal figurines, Bosses, handles (Stirling and Stirling 1964:317-327). The most elaborately decorated vessels, as a rule, were the pedestal base bowls. Instead of the regular sweeping upward curve usually seen in Panamá, the Taboguilla examples typically have a bulge in the column between the base and the bowl. Some of the bases are decorated by pressing with the edge of a scallop shell. Most are scallop combed on the interior.

The Stirlings do not give any chronological relationships for their material, thus the links with other types rely on formal similarities with dated pottery from the Central Region. Their sites show pottery with a range of dates, from Cubitá and Conte, to Macaracas and Parita pottery (see Table 3.2.), so it is hard to relate the undated material they present to any specific pottery assemblage. Their plastic decorated pottery does seem to be earlier in time and possibly belonging to the type known as Zoned Linear Incised, as they mention the lack of modelling typical in the ubiquitous Incised Relief Brown ware which we will see below, tentatively dated to c.a. AD 400 – 750. However, the description of their main Taboga wares, Red, Orange and Buff ware are almost identical to those of the material excavated in Panamá Viejo (see chapters 5, 6 and 7).

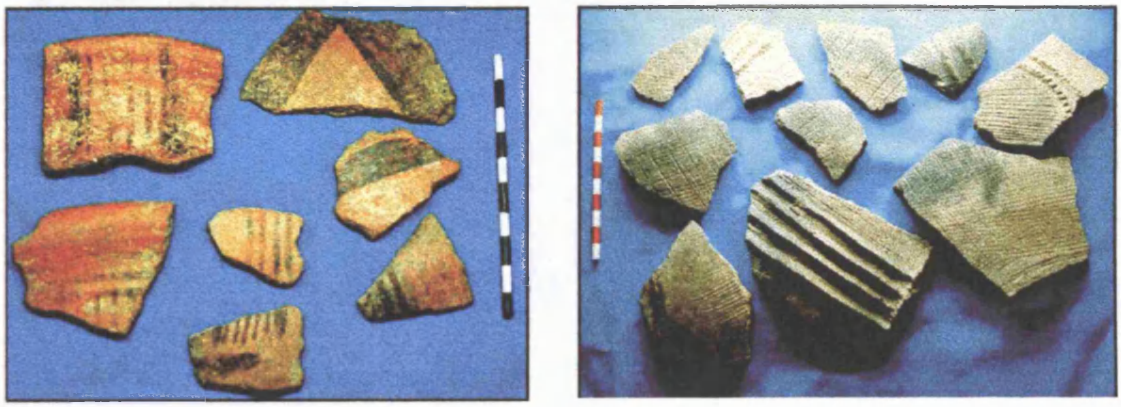


Fig. 3.5. Taboga Black on Red pottery (left) and with plastic decoration (right). Photographs by Tomás Mendizábal.

Fig. 3.6. Taboguilla Incised pottery, found at Casa del Obispo, Panamá Viejo. Possibly Zoned Linear Incised. Photograph by Tomás Mendizábal.

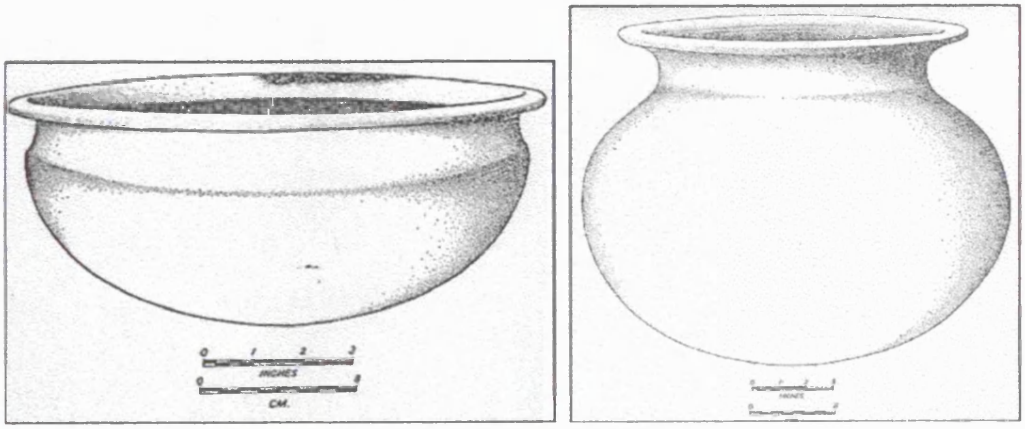


Fig. 3.7. Taboguilla Buff Ware forms, bowl – *plate* – (left) and jar – *olla* – (right), very similar to those found at Panamá Viejo. Source Stirling and Stirling 1964, Figs. 37 and 35.

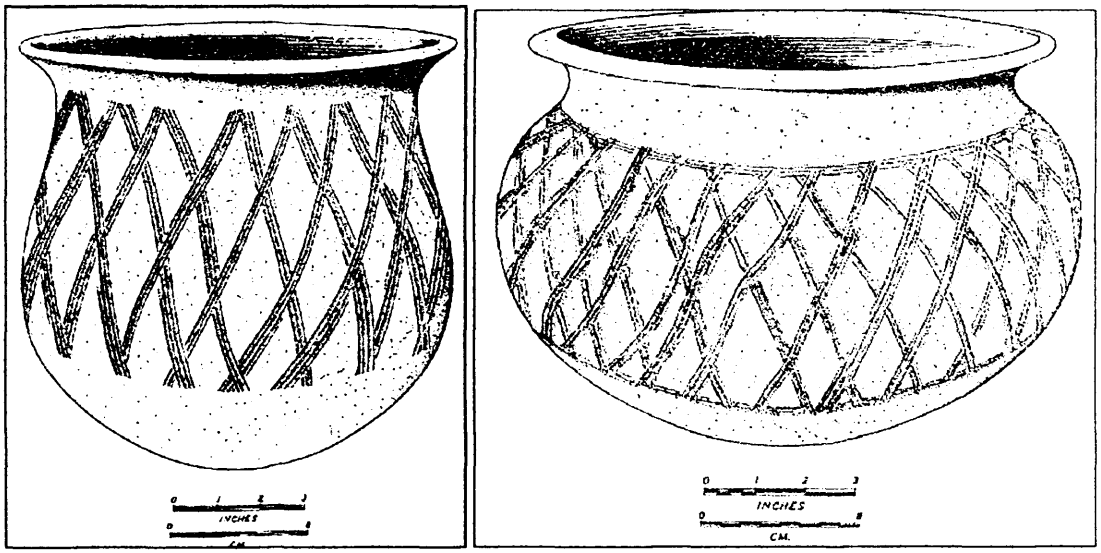


Fig. 3.8 Taboguilla incised pottery. Source Stirling and Stirling 1964 Fig. 42 (left) and Fig. 41 (right), Zoned Linear Incised.

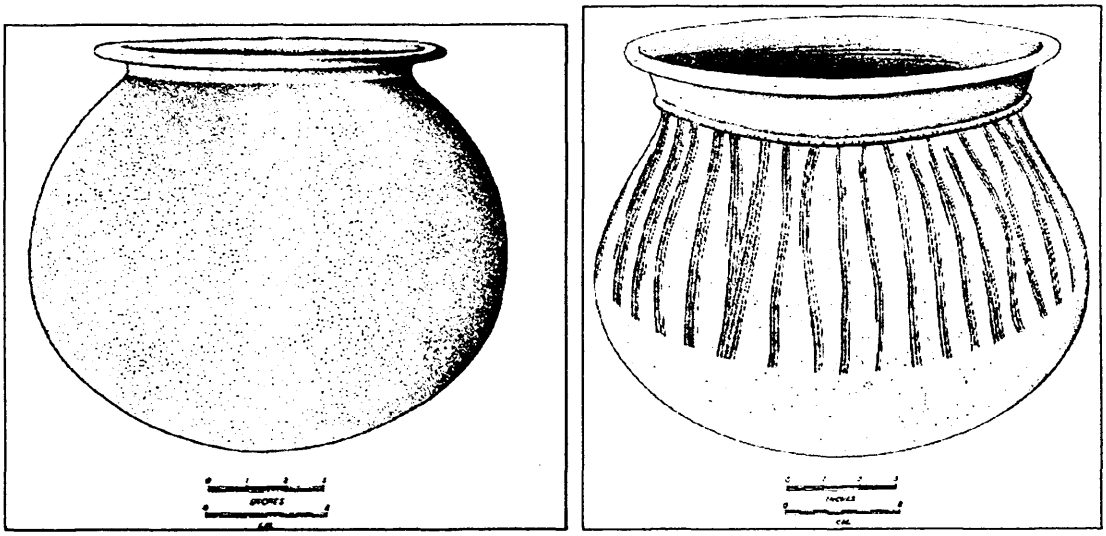


Fig. 3.9. Taboguilla Globular buff ware jar (left) and Taboguilla Incised jar with deep multiple line incising, Zoned Linear Incised (right). Source Stirling and Stirling 1964 Fig. 36 and Fig. 40.

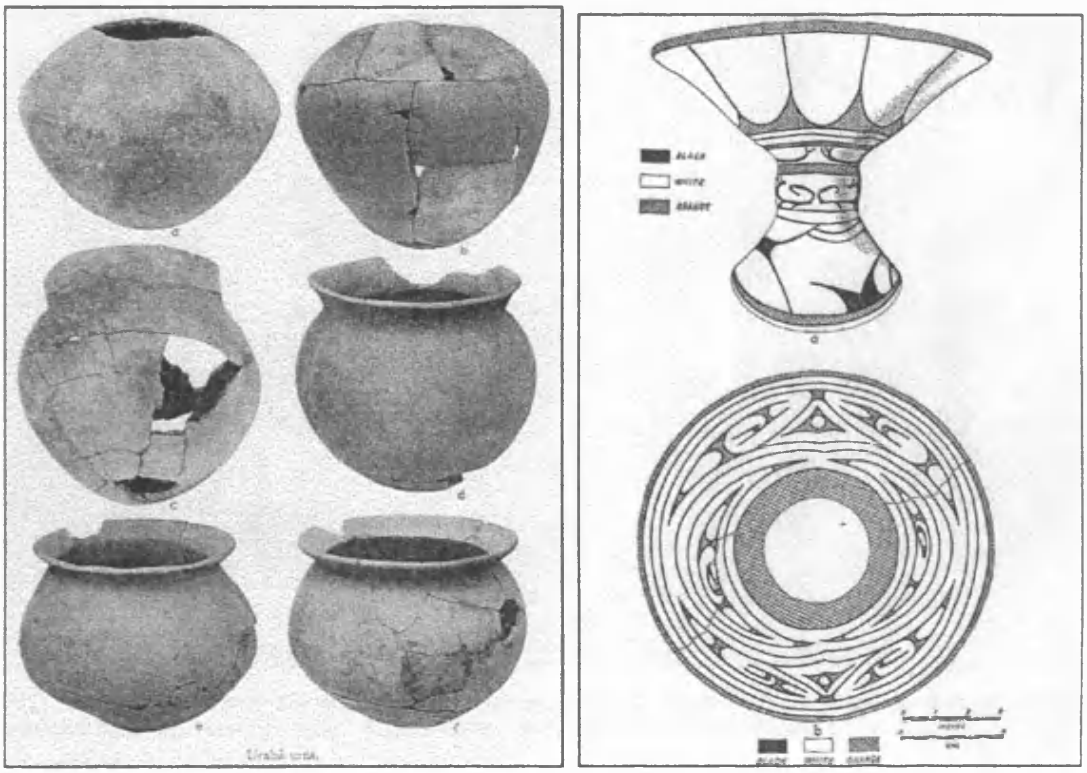


Fig. 3.10. Urabá Island urns (left) similar in shape to those found at Panamá Viejo, and Taboguilla pedestal base bowl with orange, black and white decoration, possibly belonging to Macaracas style pottery from Central Region. Source Stirling and Stirling 1964 Plate 56 and Fig. 48.

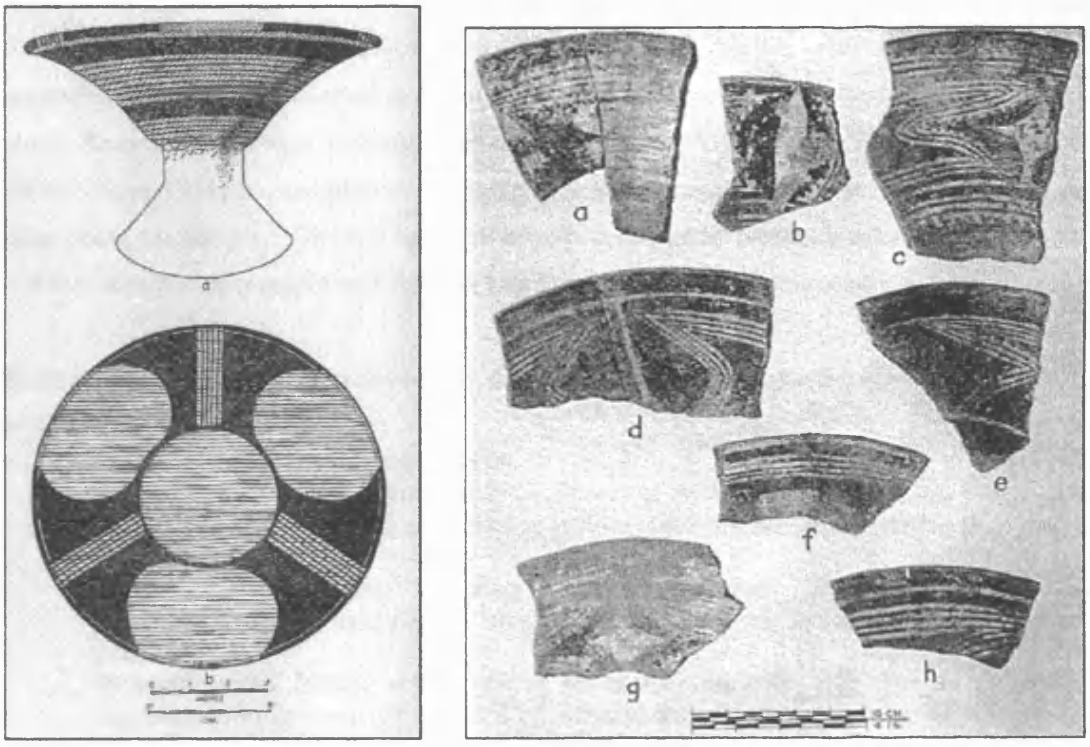


Fig. 3.11. Taboguilla pedestal base bowl with black and white decoration (left) and Pedestal base bowl sherds (right). Source Stirling and Stirling 1964 Fig. 49 and Plate 80.

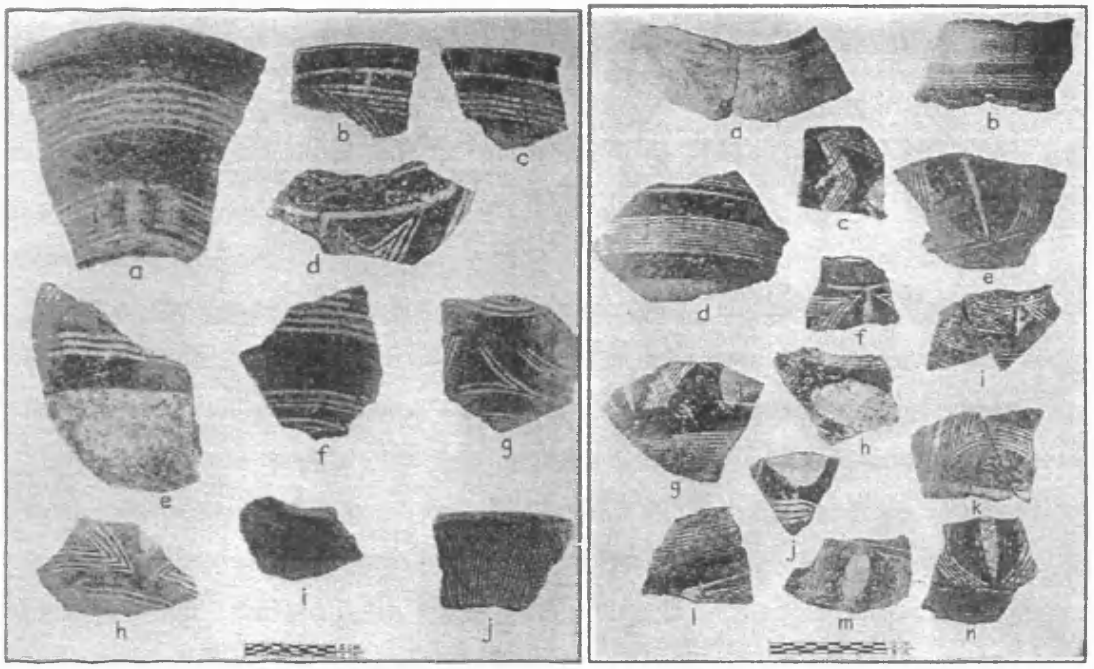


Fig. 3.12. Taboguilla miscellaneous black-on-white-and-orange sherds (left) and black-on-white-and-orange pedestal base bowl sherds (right). Source Stirling and Stirling 1964 Plate 82 and 81.

Biese's excavations in Panamá Viejo

Leo Biese explored the site of Panamá Viejo, following the earlier work of Hale Morgan Smith (Biese 1960, 1964). Near the northern limits of the Colonial ruins and the Puente del Rey, he found a Precolumbian "habitation and cemetery site", with the two areas clearly defined but somewhat mixed. "The distribution did not change gradually, but rather there appeared to be a sharp demarcation between cemetery and residence areas. The cemetery is about 100 x 200 yards" (Biese 1964:14), and most of the burials are of two major types, open and urn burials, the latter being the majority. The site had been heavily disturbed by modern machinery, so Biese did not have a proper stratigraphy and was at a loss to create an internal chronology.

Biese (1964:45) classified the ceramics, following as usual the taxonomical system, as follows:

- **Panamá Viejo Red Ware.**
- **Panamá Viejo Decorated Brown Ware**.
  Incised brown ware. Identical to those sherds of the same name from Sitio Conte. The paucity of examples would suggest it is neither native to, nor representative of, either of these areas.
  Geometric Brown Ware. Including its red-brown variants. The design is geometrical and incised with secondary elaboration by punching and mechanical stamping with shell and reed.
  Biometric-relief brown ware. (With red-brown variants). The designs are animal representations in bas-relief outlined by incising and elaborated by secondary stamping. This also would include the smaller designs in which the representation is not actually elevated from the vessel surface.
- **Panamá Viejo Black on White Panelled Red Ware.**
- **Panamá Viejo Ceremonial Ware**.
  Including those elaborate vessels with geometrical designs and/or three dimensional modelled or appliquéd sculptures (modelled relief brown ware, later called Votive Ware).

- **Panamá Viejo Urn Wares**
  Red urn ware, and the common red-brown covers.
  Relief urn ware.
  Black on white panelled red urn ware (covers only)
  Red and black on white urn ware.

Red Ware

"Most of the pottery sherds (in their majority [50:1] undecorated red ware), came from a utilitarian, plain, undecorated, hard dense vessel of red-brown color, tempered with fine grit often bearing minute siliceous deposits. The slip varies from red-brown to decidedly red-orange colour. The most common shape are the small globular "beanpot" with a rounded bottom, a larger and more stable wide-mouthed bowl, and a rather thick and heavy plate of very shallow form. There is a simple recurved rim without secondary elaboration or decoration so that cross sections are of uniform width. Surface finish varies from a smooth to a rather roughened appearance with undiagnostic tooling marks on both the interior and exterior. Firing is often uneven with isolated black smudges on surface areas" (Biese 1964:29-30). Biese claims that this same type of pottery was also found at Cupica, Colombia, by Linné. Biese's Red Ware is identical to that found in recent excavations in the site, described in chapters 6, 7 and 8.

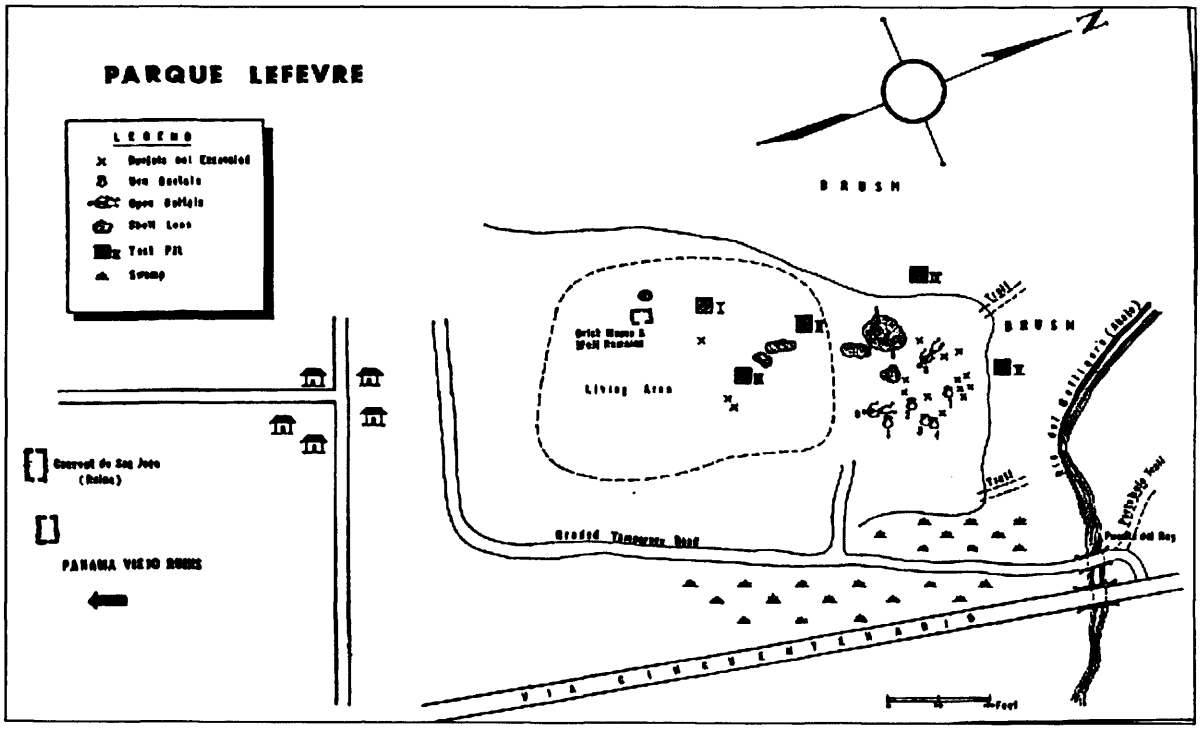


Fig. 3.13. Map of Biese's site. Source Biese 1964 Map 2.

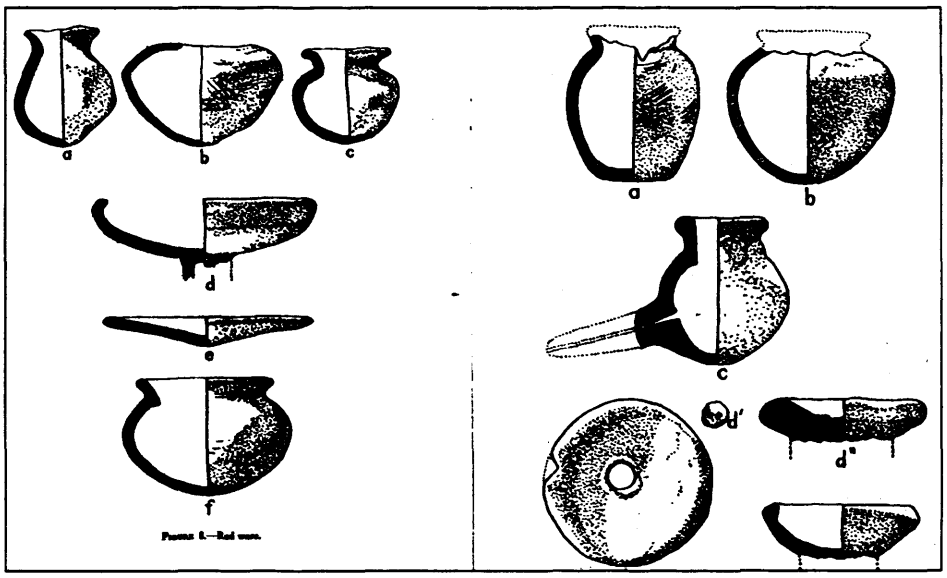


Fig. 3.14. Red Ware forms. Source Biese 1964 Fig. 8 & 9.

Brown Ware

The characteristic[15] type of pottery is an unslipped brown ware, decorated through combinations of incising, mechanical punching and appliquéd modelled relief. The group includes several related types that employ more or less the same techniques but vary widely in colour and, to a lesser extent, in the physical characteristics of the paste mixture. The colour is most commonly a medium brown or red brown, but a considerable portion of the sample runs toward a redder tone or to darker browns and lighter red-free browns. Vessels usually have red surfaces (in Panamá, the red slip is fugitive, which is probably why it is usually described as "brown" ware) (Cooke 1998a:100). Most of the material is a fine-textured, fine-grit tempered paste which was smoothed on the surface to a moderate polish, impervious to water (Biese 1964:30-32). This pottery was first found at Venado Beach and called Modelled Relief Brown Ware, though later it was termed Incised Relief Brown Ware (IRBW). It occurs on Pacific shores all over the Eastern Region, but has not been found during the recent Patronato Panamá Viejo excavations.

Brown Ware Decorative Techniques

Segments of reptiles are the most common design motifs, usually placed separately on opposing sides of the vessel. In all cases the same pattern was present on both sides of the upper half to one third of the vessel. There are incision, surface designs, relief modelling and appliqué present on the vessels.

Incision

Achieved with the thumbnail or a pointed tool in a linear fashion to form various animal drawings. They are then elaborated with incising or punching to fill in the design or further

[15] He does not specify what "characteristic" means; whether it is majority in frequency or just the most striking, eye-catching type.

elaborate body outlines. Punched holes, shell marks, thumbnail marks, and various combinations of markings made by a hollow reed have been identified. The reed marks are in patterns of full circles, concentric circles with central dots, and half circles. The designs present a mixture of several techniques (Biese 1964:40).

Surface Designs

On the out-sloping plates and shallow bowls, most frequently they are rims with moulded ridges and/or one or more concentric incised rings. The ridge may be above the ring, below it, or both above and below. Of the vertical brown-ware rims, designs consist of geometrical patterns of alternating incised lines and punched dots. The patterns occur all over the external surface exclusive of the bottom and do not appear to be organised in zones. Some designs are more elaborate incised circles and swirls, like those on the votive ware (see below). On others, an appliqué ridge is diagonally incised in imitation of a rope, or has crude ridging and edge-notching (Biese 1964:40).

Relief Modelling and Appliqué

"It is Relief modelling which really gives this pottery (IRBW) its completely distinctive appearance and one cannot but be impressed at the high degree of refinement in this technique. Occasionally the entire animal body is raised above the vessel surface, outlined with deep linear incising, and panelled with reed or shell markings (Fig. 3.15.). In the thick, heavy sherds the modelling often is pressed outward from the inner surface; in smaller sherds the inner surface is smooth and flush. Relief is also used for heads alone, or portions of heads such as jaws and the beaks of birds. Appliqué is used in much the same manner where a sharper raised edge is required; most frequently in the application of eyes" (Biese 1964:41).

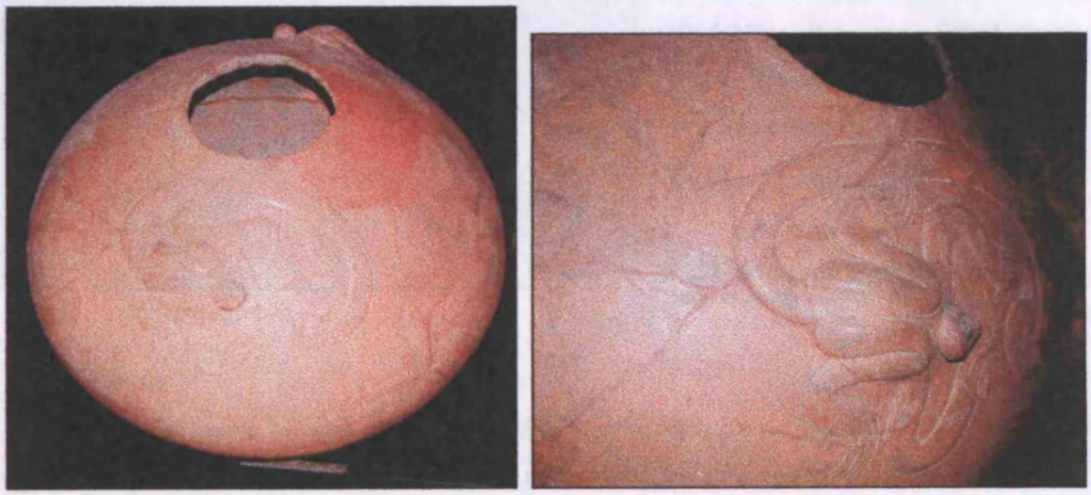


Fig. 3.15. IRBW urn recovered by Biese now at the Museo del Canal (Canal Museum), and a close up of the same urn. Photographs by Tomás Mendizábal.

Black and white over red ware

They are rim pieces with concentric bands of white and black paint on a red background, probably related directly to the panelled urn covers (see below). The bands may be single or multiple, while the ceramic paste is identical to that of the usual red ware[16]. They are not, however, true polychromes, but Biese thinks they are related to the panelled red ware of Coclé. Also a Red on brown ware was found, represented only by two sherds, of the same brown ware present throughout the site, but having a narrow red band (Biese 1964:33).

Funerary Votive Ware

Biese thought it the most remarkable and locally distinctive ceramic type from Panamá Viejo, now known from other sites in the region. With the exception of a tribowled candelabrum, these objects all were found unassociated in the burial area. Their elaborate nature, location, and scarcity is interpreted by Biese to indicate that they should be considered apart from the other artefacts as a special class of votive ware, thought to be restricted to funerary use. Incised Brown Votive Ware, as it is also called, is found at sites all over the Pacific Coast, such as Venado Beach, Panamá Viejo and at Upper Madden Lake as well. The vessels are all light to medium brown in colour with a fine textured paste and a fine grit temper. Among the forms are incised chalices or pedestal bowls, and poison pots (Biese 1964:20). It is now called simply Votive Ware, and one vessel of this type was found in Tumba 10 (see Fig. 5.33.).

Fig. 3.16. Biese's Votive Ware vessels. Source Biese 1964 Plate 7.

Trade Wares

Biese identified wares brought from the Central Region such as redline ware. Two red ware vessels, while similar to Coclé vessels, appear to be imitations or copies of the same. Also found were a wide-mouthed pot and a rather massive dense polychrome pedestal enclosing rattles. Both

[16] The description of this ware is identical to that of the pottery offering on Tumba 1, where pedestalled plates with this black and white decoration on the inner rim were found.

have coarse, medium buff ground colour with designs in red and purple edged in black (Biese 1964:42).

Burials

Of the open burials, four of them were fully extended, face up, oriented north-south. All were adults, three male, one unidentified, two burials in a shell lens, with open mouths. (Biese 1964:15). Almost all are plain; only two were recovered complete, both with raised designs (Fig. 3.13). The typical urn is globular with a rounded bottom, on the average measuring 50 cm. in height and 60 cm. in maximum diameter with a 30 cm opening, with the inflection point being about halfway up the vessel. The clay is well fired, coarse, granular and tempered with coarse grit, which in some cases is a sand containing microscopic bits of silica and bearing minute gold particles. The paste colour is a medium brown with mottled black-to-green areas indicating irregular firing. Thickness is greatest at the bottom but is maintained fairly regularly up the vessel walls well above the inflection point. At the lip, thickness is approx. 0.7 cm. All lips have a plain, smooth taper without evidence of secondary elaboration. No lugs or handles are present. Again, this description is identical to Tumba 2 and 4 found at Panamá Viejo (Fig. 5.22. and 5.25.). Several urns were capped with large fragments of other broken vessels but most were covered by shallow bowls with a flaring rim. These are generally about 40 cm. in diameter, 15 cm in depth and modelled of the same paste as the urns. Like the urns they frequently were plain and given a red to orange-brown smooth slip. Unlike the urns, however, the lids were of thinner construction and hence somewhat better fired (Biese 1964:15-16).

Biese goes on: "fragments indicate that perhaps from 5-10 percent of the lids bore a white rim with overpainting of black geometric designs, contrasting sharply with the red-brown slip...The black on white coloration has been found on the inside and outside rims, but never on both rims on the same vessel. The inner rim is more commonly painted. In no case did the design extend onto the slipped surface of the vessel proper. It is termed "black-on-white-rimmed red ware" and may be stylistically related to the panelled red ware of Coclé" (Biese 1964:16). An identical lid was found over Tumba 2 (see Fig.3.17.).

Many fragments of an urn size vessel bearing a red and black on white geometric design were found on the surface of the central burial area. This is a black bordered red on white ware and not a true polychrome. Biese adds that this type of design was not found on any other vessel but similar ones are known from carafes and small bowls from Coclé. There were also other urns recovered at Ancón Hill (in Panamá City, near the Pacific entrance of the Panamá Canal), and Venado Beach (Biese 1964:18). According to Biese urn burial has also been observed in the Lake Madden area.

Fig. 3.17. Urn Cover (left). Source Biese 1964 Frontispiece. Urn Cover Tumba 2, Panamá Viejo (right). Photograph by Tomás Mendizábal.

Biese's Discussion

Biese believes that the most 'important' material from Panamá Viejo is Incised Relief Brown Ware (IRBW) found all over the Eastern Region on the Pacific Coast down to Cupica. Biese says there was definite cultural contact with the Central Region in light of his "trade ware" findings. He adds "...the absence of both jewellery and trade ware, points to an economically poor or dependent tribe associated contemporaneously with Venado Beach when the latter was a ceremonial or ruling center. I am inclined to accept the Venado Beach RC14 date (ad 900) with slightly earlier for Panamá Viejo" (Biese 1964:49). He regards the culture of the Eastern Region as "a rather widespread group of related tribes which shared common burial and ceramic traits, and were distributed over the Canal Zone, the Pearl Islands, and the adjacent territory to the east. The composite tribes perhaps are affiliated loosely through common ethnic origins and maintain Venado Beach as a capital" (Biese 1964:49). Notice how the lack of jewellery or trade ware is interpreted as cultural inferiority. This issue shall be reviewed in chapters 8 and 9 reinterpreting Biese's findings with the new material and dates from Panamá Viejo.

Biese's final remarks are what he thinks are the site's identifying traits: 1) urn burials; 2) Incised Relief Brown Ware with zoomorphic patterns; 3) certain red brown ware combinations with shell reed and punch markings; 4) elaborate ceremonial or Votive Ware; 5) incised spindle whorls; 6) simple flake points.

La Tranquilla.

This site is located in the valley of the Chagres River. The pottery has a reddish coloured paste, and most of the vessels are *ollas* or bowls with a rounded base with short or long necks. They are also decorated with incisions, shell stamping and modelling, and Incised Relief Brown Ware sherds were found as well. At the nearby site of Tumba Vieja, a presumably Votive Ware two-bowled candelabra was found. The shell artefacts found at La Tranquilla are very similar to those found at Venado Beach. The burials are practised in the rock, with evidence of primary and secondary burials, mutilations indicated in the presence of disseminated bones (Casimir de Brizuela 1973:70-71).

Cooke's Excavation at Miraflores

In 1973, Richard Cooke excavated site Cho-3 at Miraflores, in the Bayano river watershed. He found three Precolumbian tombs, and from within them recovered the first contextualised and reliable radiocarbon dates for the entire Eastern Region; 1) cal AD 734 (785, 786, 877) 981 (Tomb 2) and 2) cal AD 781 (898 – 976) 997 (Tomb 1). In and around those tombs, he also recovered a varied pottery sample from diverse cultural backgrounds. (Cooke 1998:183). Most of the pottery was the "typical" Eastern Region plastic decorated wares, however, in the fill of the tombs there were several fragments of Macaracas style pottery, from the Central Region, dated to ca. AD 850-1000 (Isaza 1993; also see Table 3.2.). Those were the only fragments of painted pottery reported, the rest, was either undecorated or plastic decorated pottery, presenting a "typological uniformity" (Cooke 1973:379). He classified the pottery into several types, according to their decoration and morphology. His types are Black line decoration pottery, Round modelled pottery, Bas-relief decorated pottery, Incised or excised pottery, Red slipped pottery, Unslipped pottery, ceramic seals and spindle whorls (Cooke 1973:380).

Miraflores Pottery Types

Black line decoration pottery is represented by a single pedestalled plate recovered from looters, with a YC design on its bottom. The pedestal consists of three legs that unite the plate with the base.

Round modelled pottery was subdivided into several subtypes, presenting animal or house effigies on the neck, round modelled figures on the pedestal, double *ollas*, jaguar effigies and ceramic masks.

Bas-relief ceramics, which Cooke identified as identical to IRBW, were found as fragments in the fill of the tombs and in surface collections.

Pottery with excised or incised decoration for the most part did not present modelled decoration either, and was identified as Zoned Bichrome Ware. The pieces were not found complete, only surface fragments and in the fill of a tomb, at Miraflores (Reichel-Dolmatoff and Dussan de Reichel 1961: Plate VII, 4).

Most of the pottery, though, was undecorated, therefore a division into Miraflores Red (total or partial slip), Miraflores Unslipped and Miraflores Thin (thin walls and a fine sand temper with a high quartz percentage) was adopted (Cooke 1973:384). The shapes were divided thus: non-restricted vessels (open mouths), restricted vessels (closed mouths). This description is also very similar to the Red Ware found at Panamá Viejo by Biese and the Patronato excavations.

Cooke's Interpretation

Cooke sustains that the differences between the Central and Eastern Regions started to take shape at least since AD 1 and continued until the Conquest. He also says that probably, the representative pottery for the Eastern Region from 300 BC to AD 1 is the Zoned Linear Incised. He gives a tentative date of ad 1-600 for the Zoned Bichrome type in the Miraflores tomb fills (Cooke 1973:399). "The Macaracas Polychromes found in tomb fills in Miraflores...are indistinguishable from Parita Bay materials....Hence they are likely to be genuine imports. Their presence is coincident with the RC14 dates from Miraflores (range of AD 730-1000) and also with ceramic chronologies established for Panamá's Central Region, which place Macaracas varieties after cal AD 650 and before cal AD 1070-1150" (Cooke 1998a:104).

He thinks that the most recent pottery manifestation in the Eastern Region is the Votive Ware type (Ladd's Venado Beach incised type), found also in Lake Madden, Panamá Viejo and Venado Beach, but not at Miraflores. Similar fragments at Miraflores and his personal opinion, back in 1973, seem to indicate a date of AD 900-1500. He further mentions that presumably the frontier between both traditions, Eastern and Central regions, was never stable, and that during the AD 400-700 period, the western ideas dominated in the east while they vanished in the centuries preceding to the conquest. "Apparently the East of Panamá lost the boat of polychromy, when this technique reached a peak in the Central Provinces around AD 200-400. The two regions show similarities in the Formative period, but instead of paint as a medium of expression, eastern ceramists adopted and continuously followed plasticity, achieving superlatively sophisticated examples of ceramic art" (Cooke 1973:401). His opinions have now changed somewhat, as will be discussed below.

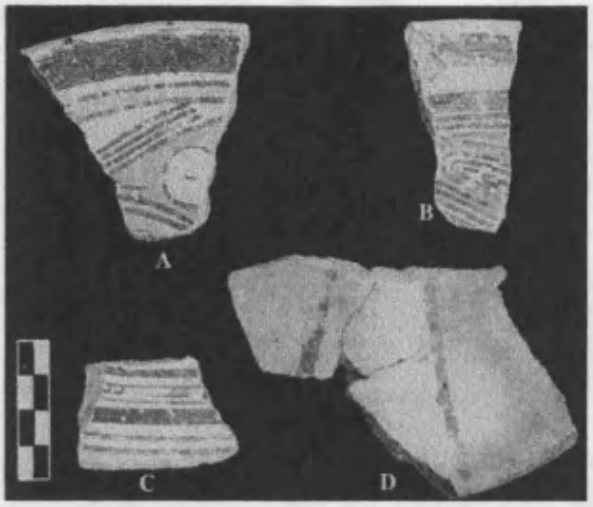


Fig. 3.18. Macaracas style pottery found in Miraflores tomb fill. Source Cooke 1998a Fig 8.9.

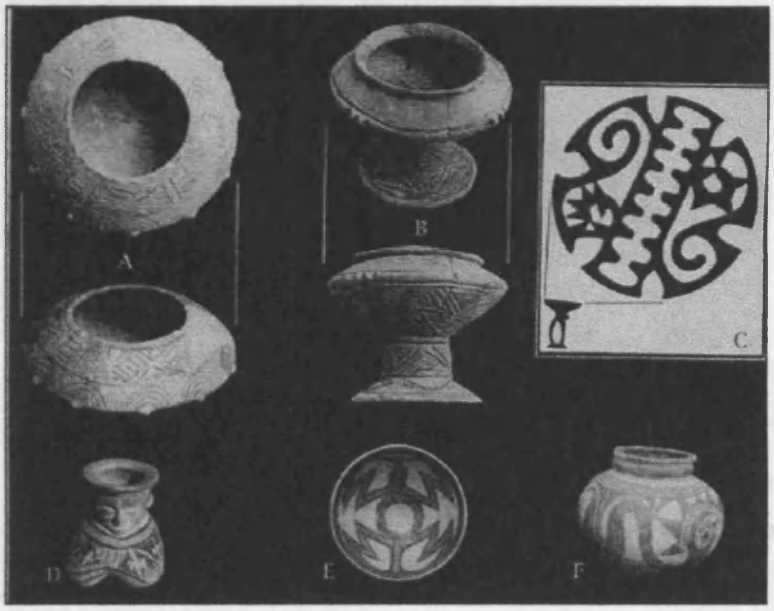


Fig. 3.19. a), b), c) Miraflores pottery. d) Cubitá Style effigy from Venado Beach. E) Cubitá Style Ciruelo Black on red pottery, Azuero. f) Cubitá Style, black on buff jar, Azuero. Source Cooke 1998a Fig. 8.6.

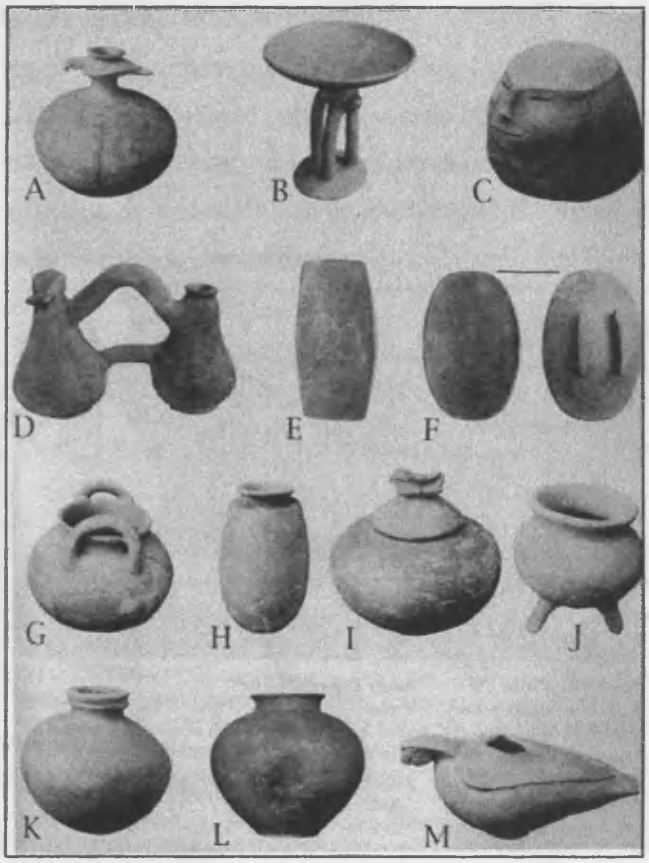


Fig. 3.20. Miraflores pottery. Source Cooke 1998a Fig. 8.8.

Drolet's Survey in the Atlantic Coast

Robert Drolet conducted a series of surveys in the Costa Arriba area of Colón, in the early eighties. He found two sites with lithic workshop remains, evidencing a pattern of dispersed population of small, one to two household-sized settlements, and a cultural complex that according to his descriptions is very similar to others found all over the Eastern Region of Panamá. (Drolet 1980:168). The site termed PC001 was the largest and most information-rich in his survey.

The predominant cultural item in Costa Arriba sites was a utilitarian, undecorated ware termed Santa Isabel Undecorated (SIU), whose forms are mostly large mouth *ollas* with thick walls and open plates, presenting a dark red or maroon colour slip (Drolet 1980:172). Also a small sample of plastic decorated sherds was recovered. Two stylistic wares were separated in this sample, one corresponding to Incised Relief Brown Ware (IRBW), and the other plastic decorated style found was the local Rio Cuango Punctate (RCP), which according to Drolet seems to share close similarities to punctate wares dating to as early as 1000 BC in the Atlantic watershed zone of Costa Rica (Snarksis 1978:70-89 in Drolet 1980:150).

Santa Isabel Undecorated

Rims of SIU present 4 vessel categories: 1- Wide Mouth *Ollas*; 2- Shallow bowls and plates; 3- Small to medium sized restricted mouth bowls; 4 – Neckless *olla*. The most frequent form was the wide mouth *olla*. Three distinct vessel varieties were distinguished, including everted-rim *ollas*, flat rimmed *ollas*, and bevelled-rim *ollas*. Vessel categories share similar paste temper and surface treatment characteristics.

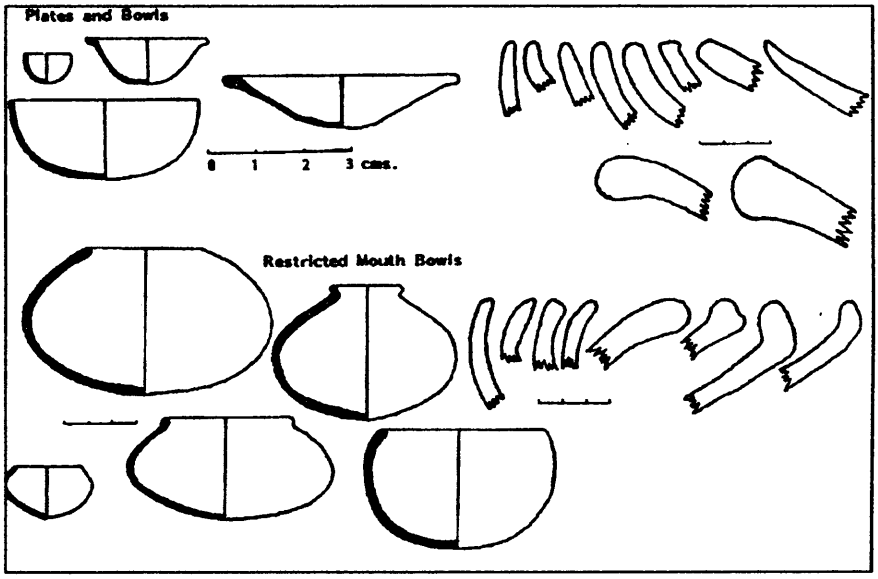
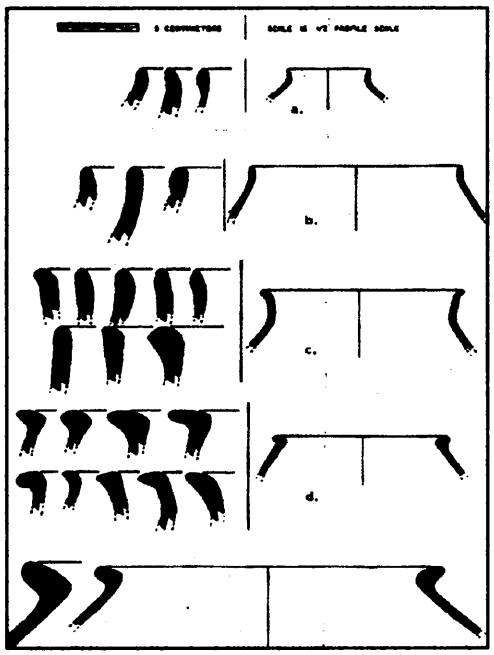


Fig. 3.21. Santa Isabel Undecorated Forms. Source Drolet 1980 Fig. 2.



The paste colour ranged from tannish brown to a brick red with the core being generally darker and more uniform in colour indicating incomplete firing. The paste was of a porous and gritty consistency while temper was generally a large particle, riverine gravel of irregular, edged igneous stone, quartz, andasite and feldspar, that often creates a sandpaper-like surface on the body walls. Other vessels had temper of sand or no temper. A narrow slip was occasionally placed over the vessel before firing (Drolet 1980:193-198).

Fig. 3.22. Santa Isabel Undecorated *Olla* Rims. Source Drolet 1980 Fig. 43.

Drolet thinks Panamá Viejo Red Ware bears a close relationship to his Santa Isabel Undecorated Type, and one concurs, with its large-mouth *ollas*, bowls and shallow plate vessel forms. Drolet

adds that "a similarity of utilitarian wares points to links between occupations in the Atlantic and Pacific coasts" (Drolet 1980:223).

Rio Cuango Punctate

Rio Cuango Punctate (RCP), according to Drolet, is a local pottery style of early chronological importance that may link together Formative period settlement over a wide area of the Caribbean lowlands. RCP sherds contain predominately lineal punctate designs, dots occurring in lines around the upper shoulder. Small, restricted wall bowls are a common form as well as a small shallow vessel with wide mouths, and a shallow, everted-rim plate. Often modelled appliqué lugs are placed on the exterior. Incision, punctate and modelling always appear in lineal fashion - shoulder grooving, modelling and ridging, with the particularity that only one design technique is used on a single vessel; i.e., incision is never accompanied with punctate.

Drolet suggests that RCP shares close similarities to La Montaña phase ware from eastern Costa Rica, dated between 1000 and 500 BC, sharing plastic decoration attributes. Snarksis has argued a close relationship of this early phase component to Formative ceramic complexes from northern Colombian sites of Barlovento and Momil. Drolet argues that RCP is a Formative Period-like form (Drolet 1980:200-209). RCP does not resemble any of the other plastic decorated types in Eastern Panama, possibly reinforcing its Colombian connections.

Discussion

As IRBW is also found at Panamá Viejo, Drolet sees it as evidence of trade between the Atlantic and Pacific settlements, arguing that IRBW was probably not locally made in the Costa Arriba Region (Drolet 1980:209-211). Drolet states that SIU and other decorated groups, except Rio Cuango Punctate (RCP) in Costa Arriba are datable to AD 1 – 600, but it is unknown how he arrives at such a conclusion.

As for the few painted Wares associated with IRBW in the Costa Arriba, they were sherds with solid red, black, and white linear designs in monochrome, bichrome and trichrome combination. Also present were white and orange-slipped sherds. He thinks they show temporal and cultural relationships with Pacific coastal sites where these wares were apparently being manufactured, such as Taboga.

Drolet thinks that polities in San Miguel and Chucunaque and Tuira regions were in contact with Pacific Coastal South Americans, trading to the south and distributing products into the interior of Eastern Panamá, a theory later supported by Cooke (see below; Drolet 1980:229-231). Also, "IRBW...links with Northwest Pacific Colombia, Rio Bayano and Rio Chagres Valley into a vast trade network for ceramic distribution" (Drolet 1980:232). "Ceramics show expansion and trade

linking communities to interior and Pacific areas as early as AD 1" (Drolet 1980:233). Finally, he adds, that "the amount of related ceramic styles in Eastern Panamá indicates a complete domination by large agriculturally based polities...including Costa Arriba by at least AD 200"(Drolet 1980:234).

Cooke's Reappraisal of Reichel-Dolmatoff's work at Cupica

Cupica is one of the few stratified sites that have been reported in detail, on the Pacific Coast of the Department of Chocó of Colombia. There, the Reichel-Dolmatoffs identified habitation and mortuary zones (Cooke 1998a:91-95). "The Reichel-Dolmatoffs resorted to a ceramic typology which highlighted surface treatment and temper qualities. They established five phases, three defined exclusively from mortuary vessels (Phases I, III and IV) and two from sherd samples (II and V)" (Cooke 1998a:94-95; Reichel and Dussan de Reichel 1961).

Cupica I – 24 ceramic vessels, four ceramic types: Gris Incisa, Habana Lisa, Ocre Tosca, Roja Aspera.
Cupica II – Three unnamed red ware types, plus Roja Raspada, Dentada Estampada, and Carmelita Porosa.
Cupica III - 19 vessels, three types: Roja Tosca, Roja Fina, Roja Granulosa.
Cupica IV – 30 vessels, eight types: Roja Arenosa, Roja Banada, Roja Burda, Roja Friable, Carmelita Clara, Carmelita Fina, Carmelita Obscura, Negra Incisa.
Cupica V –four types: Carmelita Arenosa, Carmelita Friable, Chocolate Arenosa, Roja Cuarteada.

Discussion

It was clear to Linné (1929; see Appendix 2) and later to the Reichel-Dolmatoffs, that Cupica ceramics bore closer resemblances to materials from Panamá, and the Atrato and Sinú drainages, than to culture areas further south. Bray proposed (1984:331) that "the region from Chame to Cupica was beginning to emerge as a significant culture area in its own right and should not be considered a mere buffer zone between the high chiefdoms of Coclé and Colombia". He suggested that maritime trade, in which the Pearl Islands and the Gulf of Urabá played important entrepot roles, was the motor behind "continuous and vigorous contact" between native polities (Cooke 1998a:91).

Reichel-Dolmatoff (1985) reaffirmed the Cupica-Panamá connection, emphasising the "sophistication" of the Cupica ceramics over the "crudity" of pottery found south of the San Juan River (Cooke 1998a:95). The Reichel-Dolmatoffs saw modal similarities between the pottery from Momil and Ciénaga de Oro (Fig. 3.3.) and those of Cupica I and Cupica II phases. They also noted a stylistic connection with the Sinú watershed, particularly Tierra Alta (=Cupica III) and Betancí (=Cupica IV). In their own words: "Cupica and Sinú are considered as approximately synchronous interrelated cultural developments" (Cooke 1998a:95).

In Bray's opinion, Cupica I vessels, "although within the usual Darién repertoire" could be compared in a general way with those of Momil and Ciénaga de Oro. Incised Relief Brown Ware sherds found in the "same deposit" were identical to those from eastern Panamá. Bray also noted

correspondences between Cupica III and Tierra Alta (Alto Sinú) and Estorbo (Gulf of Urabá). Cupica IV burials contained "imported Macaracas polychromes from Coclé, alongside local wares with deeply carved designs allied to those of Betancí, the most recent phase in the Sinú" (Bray 1984:330). Bray concluded that in Panamanian terms the Cupica pottery styles come out in their right relative order and also correlate quite correctly with the styles of Urabá and of Caribbean Colombia right across to Cartagena. "All along the Pacific coast there was continuous and vigorous contact for some 900 years. The presence of just about every important trade ware in the Pearl Islands, together with Coclé goldwork, suggests that much of this traffic was by sea...Darién was probably the intermediary by which Colombian metallurgy reached central Panamá. In Miraflores...the tombs contain some pottery categories that occur also at Cupica" (Bray 1984:330, Cooke 1998a:96).

Cooke says "The majority of the Miraflores vessels are red-painted and plain wares, which are well finished with moderate to good firing control (as in Panamá Viejo). Their physical properties appear to resemble those of some of the Cupica II and IV red and plain ware types (Roja Fina, Roja Arenosa, Carmelita Clara, Carmelita Fina[17])"(Cooke 1998a:97; Martín 2002b). Stylistically, however, Cooke believes that the Miraflores and Cupica samples are sufficiently unlike each other to suggest their separate manufacture by local artisans in obeisance to local tastes, and the same could be said for Panamá Viejo.

Miraflores and Cupica share the following modes (Cooke unpublished):

1) Strongly bevelled pedestal vessels with elaborate deeply incised decorations probably always filled with white clay.
2) Triangular punctated zones enclosed within incised lines...Miraflores examples, common in the grave fills, present the triangular zones pointing towards the waist of the vessel rather than the rim...this variation is widespread in eastern Panamá Bay: from Taboga to Garachiné.
3) Small collared jars decorated on the exterior with a rectilinear design that consists of combinations of fine linear incisions and punctations.
4) IRBW, reported only in the Miraflores tomb fills.
5) Modelled bird heads at the juncture of body and neck.
6) Polychrome pottery that incorporates purple paint.
7) Spindle whorls with radiating incised decoration at the waist. These have not been reported west of the Cueva language frontier, but are frequent at Panamá Viejo and sites further east.

"If a cal AD 735 – 1000 time frame for Cupica IV can be inferred by cross-dating with the Miraflores tombs, then Cupica's phase I should be older than these dates, but not by much. One phase I vessel from the first burial horizon is IRBW...manufactured between cal AD 400 and 750" (Cooke 1998a:100-101). Thus, a date of between cal AD 730 and 1000 has been proposed for Miraflores and Cupica IV viewed as a short-lived complex. Miraflores pottery is noticeably more different from that of Coclé, the Azuero Peninsula and southern Veraguas, than Venado Beach and Panamá Viejo materials are from coeval complexes in the Central Region, resembling

[17] A vessel identical to this type was found in Panamá Viejo in Tumba 10, see Fig. 5.32. and 5.35.

Bray's model of an interlinked chain (1984:308-309, see below). Many of the pottery types found at Miraflores were reported from the Pearl Islands by Linné, and also appear at scattered localities from Punta Chame to the Gulf of San Miguel. (Cooke 1998a:102-103).

Cupica and the Eastern Region

According to Bray pottery complexes from Nicaragua to Colombia show that culture areas were stable for long periods of time, and shared more traits with neighbours than with regions further away, but metalwork gives a contrary impression of considerable conceptual homogeneity, suggesting instead constant contact among culture areas. To reconcile this controversy between local conservatism and stability and regional commerce interaction (Cooke 1998a:102), Bray proposed a chain model in which "at all times, local adaptation, and adaptability, were the primary stimulus for development...each link or culture province, has its own identity, but at the same time interlocks with its neighbours to form a continuous and unbroken whole. Similarity falls off with distance; each area shares more traits with its immediate neighbours than with regions farther away" (Bray 1984:308-309). Recent linguistic studies of these groups are broadly harmonious with Bray's model (Barrantes et al. 1990; Constenla 1991; Herlihy 1986; Torroni et al. 1993).

For Cooke, "during the period cal AD 300 – 750 commercial activity around the Bay of Panamá centered on the manufacture and exchange of goods made of colorful shells (*Spondylus* and *Pinctada*), pottery painted in the Tonosí and Cubitá styles, and hammered and cast gold pieces. Shell ornaments found in graves outnumber both pottery and metalwork" (Cooke 1998a:103). In the later period of cal AD 750 – 1000, "goldwork displaced shell ornaments as the primary semiotic correlate of social status, engendering a spatial reorganization of commercial and social relationships and (in a strictly material sense) culture area distributions", as the shell producing centres were displaced in importance by those dealing with gold (Cooke 1998a:103).

Cooke says the data recovered by the Reichel-Dolmatoffs suggests that Cupica belonged to a social network that looked north and east, towards the Atrato and Sinú rivers and Panamá Bay. It appears that the focus of the site's social relations shifted somewhat through time, just as they did in Panamá Bay. During Cupica I, between AD 400 – 750, pottery styles suggest interactions with the Atrato, Sinú and middle Cauca rivers. By Cupica IV, Cupica's external connections seem to have acquired a more north-westerly and coastal orientation and Cupica material starts to show more stylistic affinities with the Eastern Region of Panamá than with its immediate Colombian neighbours. Domestic pottery was probably still manufactured locally, but decorated wares, which most likely transmitted symbolic information, appealed also to people from the Bayano River and the Pearl islands, suggesting that they were interested in a similar intellectual tradition as the Cupica people, between cal AD 730 and 1000 (Cooke 1998a:103-104). Cooke concludes by casting doubts upon the earlier premise shared with Bray's chain link model, namely, that the

geographic stability of culture areas in Lower Central America and Colombia goes hand-in-hand with stylistic conservatism in pottery. In the light of his ongoing research at Cerro Juan Díaz in the Central Region this theory is apparently no longer tenable (see Cooke et al. 2000; Cooke and Sánchez 1997; Sánchez and Cooke 1997).

Summary

It is evident that the plethora of information for the scantily explored Eastern Region can be confusing. Nevertheless, for a large portion of the Eastern Region, an image of cultural homogeneity has emerged around certain pottery attributes, namely, the preference of plastic over painted decoration, in sites arching the Pacific Ocean from Chame to Cupica. It is contended here that this apparent stability and its concomitant lack of change could shed their negative connotations. In a non-linear light stability no longer needs to be seen as stagnation. Also, the supposed pre-eminence of plastic decoration could be a broad generalisation or oversimplification of the cultural diversity present in the area, an artefact of small, sporadic research projects over the 20th century, and this issue will be dealt with below. The main types found in the region will now be summarised.

Red Ware

The utilitarian "domestic" undecorated pottery seems to share very similar attributes all over the Eastern Region. Almost the same description of paste composition, colour, and surface decoration is read for this pottery at all the sites mentioned in this chapter, and in Appendix 2, including the material from recent excavations at Panamá Viejo, corresponding, for example, with the Stirling's Red Ware, Drolet's Santa Isabel Undecorated, Cooke's Miraflores Red Ware and the Reichel-Dolmatoff's Roja Types at Cupica IV. It is also seen at Far Fan, Venado Beach, La Tranquilla and other Madden Lake sites, the Bayano Region (Miranda's survey see Appendix 2), sites all over the Pacific coast of Darién, and even in Santa María La Antigua. It presents a reddish coloured paste, with large angular inclusions of quartz, which has been incompletely oxidised in the firing pit, and that most of the times is left unslipped, or when slipped, it is only either a self-slip or a very thin slip. When unslipped, the vessels are generally well smoothed and polished, and show the colour of the paste itself on the surface, when completely oxidised, but can also present many firing clouds (see Fig. 5.19 and 5.23). When there is a slip, it ranges in colour from light to dark red, a range that can be also confused with orange colour, and it is never very thick. Vessel form is usually globular or subglobular containers or jars (*ollas*), shallow bowls (*escudillas*) and plates, pedestalled plates and bowls, and larger urns. One common attribute in these unslipped wares is the red slip on the rim on some of the collared *ollas*.

Pedestal bases appear in the assemblage excavated at Panamá Viejo as part of the slipped Red Ware, a common feature in Eastern Region pottery. In the chronology of the Central Region,

these pedestals start as ring bases in Conte times (AD 700 – 850), and elongate with time until they reach their maximum extension in Parita times (AD 1000 – 1300), and shorten again in the succeeding El Hatillo period. While there is Macaracas period (AD 850 – 1000) pottery in Panamá Viejo, the pedestal bases found there mostly resemble those of Parita and El Hatillo Types (Fig. 5.16 and 3.25), and the absolute dates recovered at Panamá Viejo seem to agree with this, as will be seen in Chapter 5 (see Table 5.7.; also Cooke et. al. 2000:170).

This recurring theme of not decorating the reddish pastes yielding a plain, reddish-brown looking pottery, and a truer red tone when slipped is also present in Panamá Viejo. It is the most striking, and frequent attribute on the pottery, a monochrome, otherwise undecorated look. And from at least the mid-first millennium AD until the end of the Precolumbian period, it seems to have enjoyed a very long history of use. They seem to have chosen not to decorate most of their pottery beyond a simple red slip. Is the Eastern Region really the domain of plastic decoration?

Plastic Decoration

The main pottery complexes identified by Biese, Stirling, Cooke, Drolet, Reichel-Dolmatoff, Miranda, De la Guardia, and others, cover almost 1500 years of Panamanian prehistory over an area half the size of Panamá, and share a common characteristic, plastic decoration. However, albeit plastic decoration is common among Eastern Region pottery, it is by far not the most common type of pottery, it is not the only type of decoration either, and it presents an enormous variation of plastic decorative techniques that have not been fully explored.

A summarised description of each of the main Eastern Region pottery types is as follows:

Zoned Linear Incised (300 BC – AD 1)

According to Drolet, but based on Cooke's work, this type is found at Venado Beach, Taboguilla (I, II), Chumical, Panamá Viejo, and possibly in the Bayano Region (see Appendix 2, Miranda's study) with a date of 300 BC – AD 1. This type has not yet been seen in the Caribbean or other Eastern Panamá sites, presenting a restricted distribution along Pacific coastal sites; however, it has been recovered as trade ware in some central province sites of western Panamá. It has been observed in deposits after 80 BC, further supporting the early occurrence of Zoned Linear Incised in the ceramic sequence of eastern Panamá. It contains a variety of different plastic motifs, including bold and light incision, combing or brushing, shell stamping, and fillet appliqué, generally placed on the vessel's shoulders (Drolet 1980:217-219). The Stirling's incised pottery could perhaps be identified with this type, but from the illustrations examined, the plastic decoration techniques seen in Taboga are far too complex to be merged into a single pottery type or ware, meriting a more detailed analysis. There are also some doubts as to the early date accredited to this material.

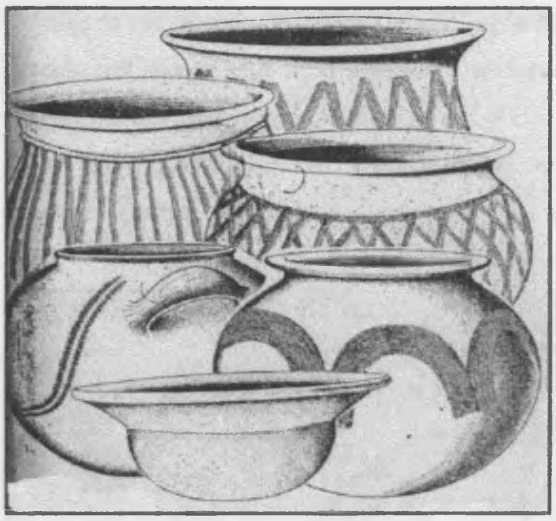


Fig. 3.23. Zoned Linear Incised Pottery

Zoned Bichrome (AD 1 – 600)

A technique typical in the formative period, separating painted patterns over a contrasting slip inside an area bordered by incisions. The design can be geometric or a stylised zoomorphic figure, painted on black over red, then delineated with light incisions. Zoned Bichrome is elegant in appearance and seldom accompanied by any embellishments. It is decorated in a two dimensional pattern with red and black painted zones, outlined with incision, usually occurring on bowls or larger *olla* and urn vessels. Zoned Bichrome is also found all over the Pacific side of the Eastern Region, though Bray says that "its dotted triangle motif recurs on the monochrome wares of the Estorbo complex and in the group of styles related to this" (Bray 1984:330). Zoned Bichrome is found in Playa Leona (near Bique), La Chorrera, Chumical, Panamá Viejo, Venado Beach, Capira (to the west of Chorrera), Lake Madden, Miraflores, the Bayano Basin and Cupica (Cooke 1973:308). It dominates at the Taboga I site, whereas it is completely absent from Taboguilla. Its distribution, according to Drolet, points to an apparent manufacture in the Pacific. Its occurrence outside this zone might indicate trade for it is not found in any Caribbean sites (Drolet 1980:222). It is equivalent to Cupica Roja Fina type in Cupica (Bray 1984:330).

Incised Relief Brown Ware (IRBW AD 400 - 750)

The most widespread of all decorated pottery types in the Eastern Region. As Bray points out, it is widespread in Panamá east of the "Cueva language frontier", being reported from the Pacific and Atlantic coasts, in Taboga, Venado Beach, Chumical, Panamá Viejo, Lake Madden (Butler Island, Isla Carranza), Chagres, Fort San Lorenzo and the Costa Arriba. In the Bayano Region too, and at Utivé, it is found related to a lithic workshop. Also in the Pearl Islands, Punta Patiño, Garachiné and Cupica (Drolet 1980:225). Although it has not been dated directly, several whole vessels at Playa Venado and Panamá Viejo were associated with painted pottery, which clearly

belongs to the recently described Cubitá[18] style from central Panamá. At Cerro Juan Díaz, Cubitá vessels and sherds have been associated with ten radiocarbon dates whose 1 sigma range is cal AD 415 – 860 and intercept range is AD 435 – 755. Thus, Cooke believes that Incised Relief Ware was manufactured no earlier than cal AD 400 and no later than cal AD 750 (Cooke 1998a:100).

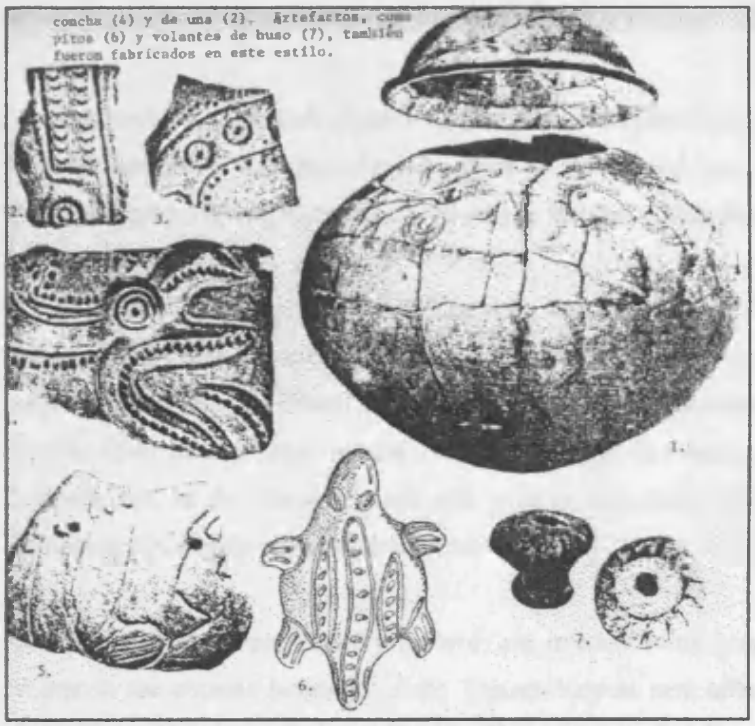


Fig. 3.24. Incised Relief Brown Ware.

Votive Ware (AD 900 – 1500)

There is Votive Ware, dated to AD 900-1500, in the Rio Chagres, Madden Lake and Pacific Coast, apparently limited to these two areas (Drolet 1980:228). They are baroque like long pedestalled vessels with zoomorphic appendages, appliqué and heavy curvilinear incision, which occur as trade ware in central Panamá (Drolet 1980:229). Biese thought it was an exceptionally fine and well made pottery. It presents a dark brown surface colour, and has no paint at all.

Conclusion

Thus there are several plastic decorated pottery types in the Eastern Region. Most of the authors above distinguish them from the undecorated, red looking, plain pottery, assumed to be local to their respective sites, and also usually discarded, deemed useless for a typological analysis. The more "interesting" painted types are widespread over the Region, and assumed to be trade pottery. Many types of plastic decoration all over the Eastern Region are unclassified or unnamed,

[18] Luis Sanchez's new Cubitá style dates to cal AD 550-650 at Cerro Juan Diaz (Sánchez 1995; Labbé 1995:fig 16). The same type of pottery has also been reported at La Tranquilla, stratified with IRBW and with a sherd described as "Tonosí Polychrome" (Cooke, personal communication).

especially the ones that have to do with simple incised decoration on unslipped vessels. This is the case at Taboga, where apart from a simple description given by the Stirlings, this pottery was left unclassified and chronologically unassociated, although it is found at several sites in the Pacific Coast, and has been all lumped into a single Zoned Linear Incised Ware. A different or more detailed classification of this pottery is needed to better understand the history of the Region. The lack of diachronic resolution when lumping all this variation into a handful of wares, types and varieties, might be hiding a lot of detail from scrutiny, and misleading conclusions.

Another problem is the lack of research of sites that date late in the Precolumbian Period, with the concomitant lack of a sample of pottery types for this period, one of the probable reasons why the plastic decorated types presented here all date in the first millennium AD except the Votive Ware.

These decorated types are distributed in sites along the Pacific Coast from Venado Beach, the Chagres and Bayano Basins, along the Pearl Islands, and on through Darién to Cupica. They appear also on the Caribbean Coast but mostly on the Panamanian side. Around the Gulf of Urabá, other pottery types appear (see Appendix 2, the work of Linné, Arcila, Bedoya and Naranjo, etc. in the Urabá region), still with predominance of plasticity when decorated, but belonging to Colombian pottery traditions.

The hitherto almost purposefully ignored, yet overwhelming presence of the monochrome Red Wares in the ceramic language of the Eastern Region may offer a different picture of pottery decoration, at least post-dating AD 750. The presence of plain, undecorated wares made from a reddish paste that gives them a reddish/brownish coloured surface when left unslipped, and a more reddish colour when polished or slipped, for so long a time (AD 750 – 1500) over so many sites, may be indicating the existence of a definite tendency of the potters, that had been disregarded until recently due to its lacklustre appearance. This monochrome or undecorated tradition, if it may be called that, this active choice not to decorate pottery and leaving it unslipped, was as much a part of the ceramic vocabulary of the Eastern Region as was plastic decoration.

Miraflores and Isla Carranza were the only two sites in the Eastern Region with reliable radiocarbon dates before the Patronato excavations, as Lothrop's Venado Beach dates are doubtful. At Miraflores Cooke reported a radiocarbon date of AD 730 – 1000, plus Macaracas style fragments from the Central Region found in the tomb fills, dated to AD 800 – 1000.

Isla Carranza gave a date of 2020 ± 155 BP (I779) or 70 BC. The plastic decoration found on sherds seems to be associated to Aristides pottery (AD 100 – 500) in Coclé and Herrera provinces in the Central Region (Cooke personal communication, 2000). These radiocarbon dates plus the

associated dates from Central Region pottery have been used to cross date the sites and pottery assemblages in the Eastern Region. Together with the few reliable dates, taxonomical classification of the pottery has yielded a segmentation of time into very lengthy periods (four or five hundred years), taken as proof of stylistic conservatism (which need not be disadvantageous) and a concomitant slow social development. But trying to measure and judge the "speed" of social development, whether it is seen as slow or fast, good or bad, is the product of a linear progressive view of history, and does not necessarily explain anything. A new perspective on stability will be explored later.

However, some of the variability of Eastern Region pottery may have been left out of the classifications. If the different wares and types of the Eastern Region were created using plastic decoration as the main – and usually the only – segregation attribute, then the logical consequence is that when integrating all these types for region-wide studies, the only thing measured is plastic decoration. All other variability is subsumed within.

There is a need to establish connections at regional levels (formal, temporal and spatial) between Panamá Viejo and the rest of the Region, working with the material described above and that excavated at Panamá Viejo. This integration will be dealt with in chapters 8 and 9, after the material from Panamá Viejo has been classified in chapters 6 and 7. Unfortunately these connections are still tenuous and hard to establish because Panamá Viejo is the only well dated 2nd millennium site in the entire Region, while all the others remain undated; thus, relationships can only be established stylistically, and for the moment, in a tentative manner. The following chapter will deal with the history of Panamá Viejo.

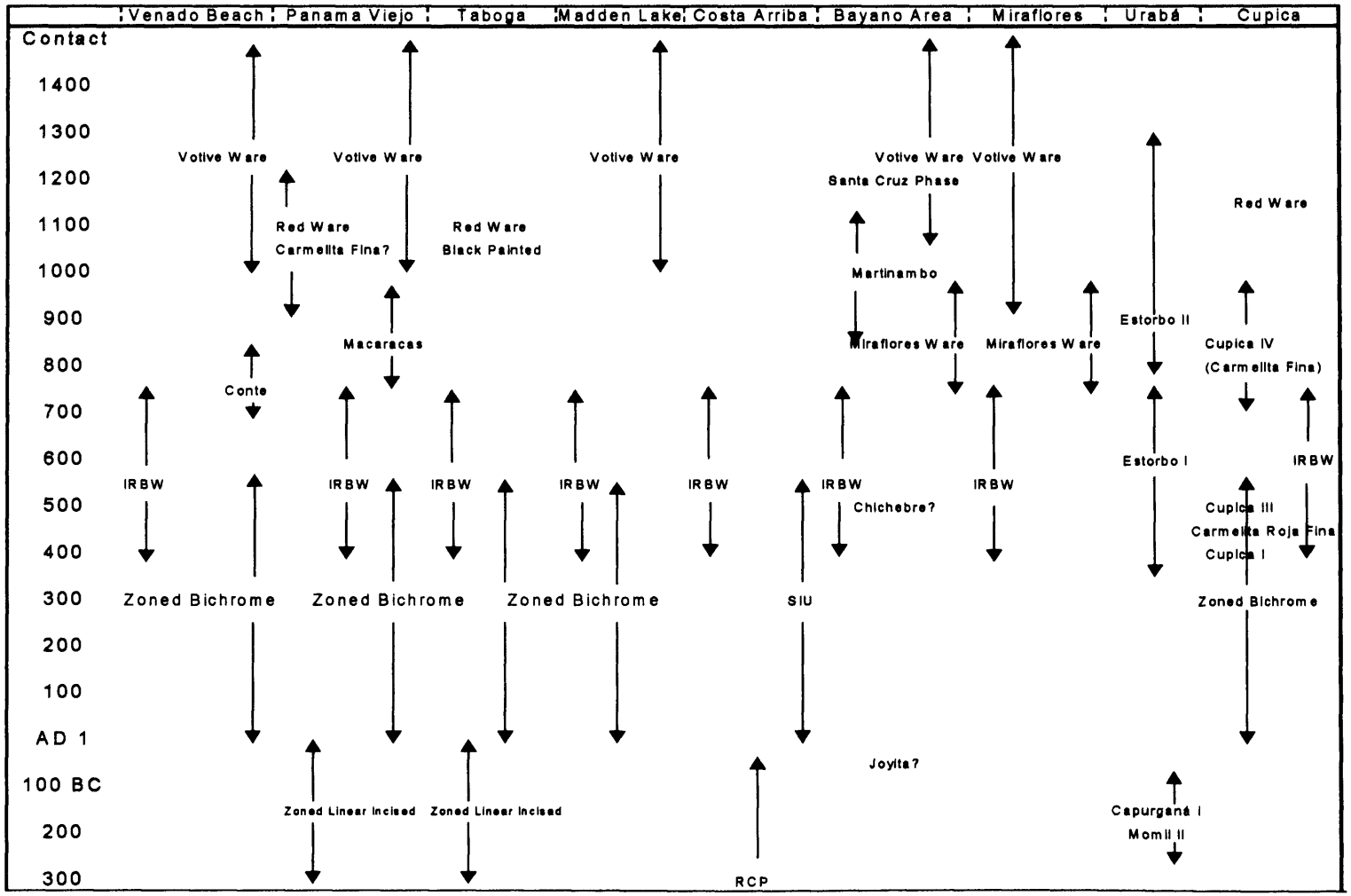


Table 3.1. Chronological chart of main archaeological sites cited on texts and pottery types. IRBW = Incised Relief Brown Ware; RCP = Rio Cuango Punctate; SIU = Santa Isabel Undecorated.

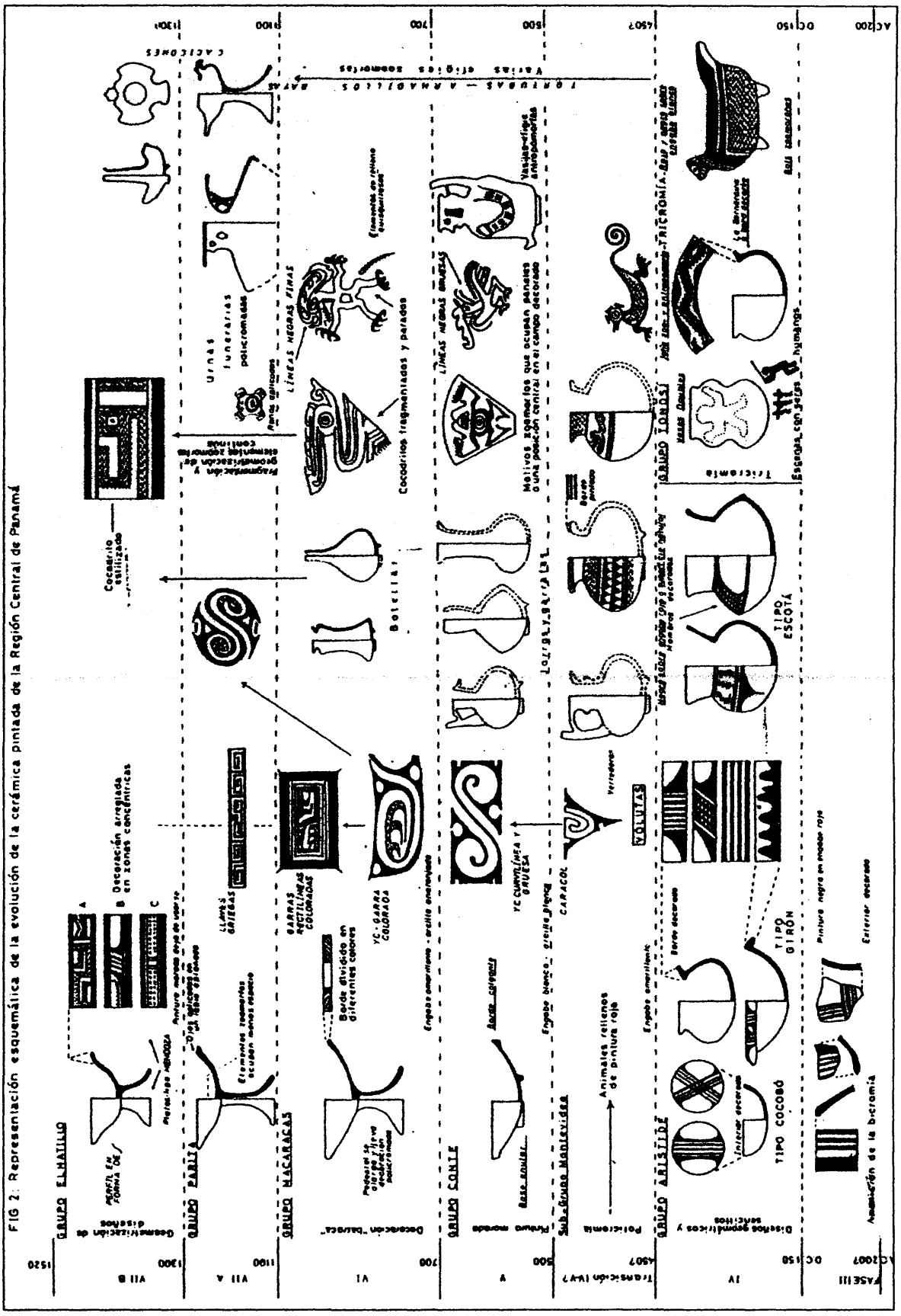


Fig. 3.25. Evolution of painted pottery in Central Panamá. Source Cooke 1976 Fig. 1.

Period	Name	Calibrated Dates	Style or Phase
1A	Pre-Palaeoindian	>9500 BC	Bifacial Work
1B	Palaeoindian	9500 – 8000 BC	Bifacial Work
2A	Early Pre-ceramic	8000 – 5000 BC	Bifacial Work
2B	Late Pre-ceramic	5000 – 2500 BC	Unifacial Work
3A	Early Ceramic A	2500 – 1200 BC	Monagrillo Pottery
3B	Early Ceramic B	1200 – 700 BC	Guacamayo Pottery
3C	Early Ceramic C	700 – 200 BC	Beginnings of Bichromy
4A	Middle Ceramic A	200 BC – AD 200	La Mula Pottery
4B	Middle Ceramic B	AD 200 – 500	Tonosí Pottery
4C	Middle Ceramic C	AD 500 – 700	Cubitá Pottery
5A	Late Ceramic A	AD 700 – 850	Conte Pottery
5B	Late Ceramic B	AD 850 – 1000	Macaracas Pottery
5C	Late Ceramic C	AD 1000 – 1300	Parita Pottery
5D	Late Ceramic D	AD 1300 – 1520	El Hatillo Pottery

Table 3.2. Updated chronology for the Central Region of Panamá. (Richard Cooke, in personal communication to Jacinto Almendra, Director of the Conservation Department at the Patronato Panamá Viejo, 2000). Dates of pottery styles in the text refer to this table.

Period:		
I	Paleoindian	c. 9000 BC
II	Early Preceramic	9000-5000 BC
III	Late Preceramic	5000-3000 BC
IVA	Early Ceramic A	3000-900 BC
	Monagrillo	3000-1100 BC
IVB	Early Ceramic A	3000-900 BC
	Sarigua/Guacamayo	1100-900 BC
VA	Middle Ceramic A	900-500 BC
	Bichrome and Trichrome	
	Painting Introduced	
VB	Middle Ceramic B	500-100 BC
	La Mula Polychrome	
VC	Middle Ceramic C	100 BC - 300 AD
	Aristide – Early forms	
	And decorations	
VD	Middle Ceramic D	AD 300-500
	Tonosi	(Cooke says 400-550 AD)
VE	Middle Ceramic E	AD 500-600
	Montevideo, Cubitá	(Cooke 1998a says Cubita 550-650 AD)
VIA	Late Ceramic A	AD 600-800
	Conte	
VIB	Late Ceramic B	AD 800-1000
	Macaracas	
VIC	Late Ceramic C	AD 1000-1300
	Parita	
VID	Late Ceramic D	AD 1300-Spanish Conquest
	El Hatillo	
VIE	Late Ceramic E	Post Conquest

Table 3.3. Previous Central Panamá Chronology from Ilean Isaza's Thesis (1993). Labbé adds that "there is still some uncertainty as to the chronological parameters of La Mula and Aristide. Cooke (personal communication 1994) feels that La Mula may date c. 100 BC – AD 100, and that early Aristide types such as Girón, Escotá and Cocobó likely date to AD 100 – 300. Cooke would also place Tonosí between AD 200 – 400. Isaza's Montevideo is our Late Tonosi. Our Montijo transitional falls within middle ceramic E" (Labbé 1995:50).

Eastern Region Chronology

Period	Phase	Ceramic Group	Date
I	Paleoindian		10000 - 7000 BC
II	Preceramic		7000 – 3000 BC
III	A	Zoned Linear Incised	3000 – 1000 BC
III	B		AD 1000 BC – 150
IV		1. Brown Relief Ware 2. Zoned Bichrome 3. Votive 4. Red Monochrome 5. Painted	AD 150 – 500

Central Region Chronology

Period	Phase	Ceramic Group	Date
I			10000 - ? BC
II	Preceramic A Preceramic B		8000 – 5000 BC 5000 – 3000 BC
III	A B	1. Monagrillo 2. Plastic Decoration	3000 – 1000 BC AD 1000 BC – 150
IV		1. Aristides(Corotú Polichrome) 2. Indio (Montevideo)	150 – 500 AD
V		1. Conte	AD 500 – 700
VI		1. Macaracas	AD 700 – 1100
VII	A B	1. Parita 1. Bijaguales 2. El Hatillo	AD 1100 – 1300 AD 1300 – 1500

Western Region Chronology

Period	Phase	Ceramic Group	Date
I		Palaeoindian	12000/10000 – 5000 BC
II	A B	 Preceramic	5000 – 2400 BC 2400 – 300 BC
III	A	1. Concepción	AD 300 BC – 300
IV		1. Barriles	AD 150 – 600
V		1. Bugaba/Burica/ Aguacate...Aguas Buenas III B	AD 500 – 700
VI	(San Lorenzo)	1. Red Line	700 – 1100 AD
VII	(Chiriquí)	1. Red Line 2. Chiriquí Plastic 3. Diquis	1100 – 1500 AD

Table 3.4. Previous Chronology for the three Cultural Regions of Panamá, prepared at the Instituto Nacional de Cultura, c.a. 1983. Notice the huge temporal gaps between periods and types.

Chapter 4
Panamá Viejo: Cultural and Natural Setting.

Introduction

Panamá Viejo is Panamá's most renowned archaeological site, and probably one of the largest. Its ruins embody one of the foremost symbols for modern Panamanians, especially the inhabitants of the capital city, Panamá, which it has come to represent. In dealing with the pottery sample from Panamá Viejo, it is necessary for the reader to be acquainted with the cultural and natural background of the site. Thus, this chapter deals with a summary of the history of Panamá Viejo at least since the foundation of the Colonial City, a description of its natural environment in Precolumbian, Colonial and modern times, and a brief review of what is known about the inhabitants of the site at the time of Contact, the people called Cueva.

History of Panamá Viejo

Panamá Viejo, or Panamá la Vieja, is the name of the ruins of the original seat of Panamá city, the first European settlement on the Pacific shores of America, officially founded on August 15th 1519, by the governor of Castilla del Oro, Pedro Arias de Avila (Pedrarias D'Avila). The site was at the time occupied by an Indian village, atop which the Spanish decided to build their new settlement. Following its abandonment in 1671 after a pirate attack led by the also infamous Sir Henry Morgan – who supposedly torched the town –, the survivors founded the new Panamá City on a site that offered better protection, 10 kilometres to the west, in 1673 (Castillero 1994, 1999; Sosa 1919). During the 20th century, the modern city, limited by the Panamá Canal to the west, the Cordillera Central (the central continental divide) to the north and the Bay of Panamá to the south, has grown exponentially in an easterly direction. Consequently, the archaeological site presently lies at the centre of contemporary Panamá City.

The story of the settlement's establishment and its early years is better told in the accounts of Pascual de Andagoya, Gaspar de Espinosa, Gonzálo Fernández de Oviedo, and the letters of Vasco Núñez de Balboa, and Pedrarias D'Avila to the King of Spain (see Altolaguirre y Duvale 1914; Fernández de Navarrete 1955; Fernández de Oviedo 1959; Jopling 1994; Romoli 1953; Sauer 1966). It is a history, like many others, of courage and bravado, with a heavy dose of greed, intrigue, betrayal, barbarity and inhumanity, set against the backdrop of the callous subjugation and slaughter of the local population, that according to their conquerors, were called "those of the tongue of Cueva" (see Romoli 1987 for a classic work on the Cueva).

Colonial Period History

After the foundation of Santa María La Antigua del Darién in 1510 by Vasco Núñez de Balboa, on the western shores of the Gulf of Urabá, Spanish invaders had a strong foothold in the Darién

region from which to explore the land for sustenance (Mena García 2003) and gold, one of their main interests. In these early years of the colony, Balboa managed to forge a semi-friendly relationship with the local Cueva chiefdoms, a "mixture of strong-handedness and diplomacy" (Verlinden 1958:45), exchanging European goods and military help against enemies, for food, gold, slaves and information. He befriended Panquiaco, son of Comogre, a Cueva chief in the vicinity of Santa María, who told him of the immense wealth of other chiefs to the south and west (Romoli 1953, 1960, 1987:186; see also Helms 1979, and Earle 1997 for a thorough work on chiefs and chiefdoms). He learned of the other ocean to the south, beyond which existed other kingdoms supposed to be rich in gold. The discovery of this "Mar del Sur", set Spanish eyes on the Pacific Ocean and sealed the fate of the short-lived colony of Santa María.

In 1514, Pedrarias disembarked in Darién, and with him, came the end of not only Santa María, but also of Balboa and the Cueva Indians. Immediately after his arrival, the systematic enslavement and extermination of the natives ensued, causing an almost complete desolation of the Darién region (Castillero 1995; Romoli 1987; Sauer 1966:283-289). He sent his captains on reconnaissance missions to the Pacific Ocean, and after ascertaining that Spain and its growing empire needed a settlement on Pacific shores, decided to move his administration there (Torrez de Arauz 1974, 1992).

He sent captains Diego de Albites and Antonio Tello de Guzmán to explore the region, and it was Guzmán who in the latter months of 1514 arrived at the Pacific Coast near what he called "a miserable village of Indians" which the locals called Panamá (Sosa 1919:13). This man's testimony, if available, would prove an invaluable source of information for the first contact with the village of Panamá. In the Cueva language, the name Panamá supposedly meant abundance of fish or butterflies, or simply abundance, but it could also refer to the large Panamá trees (*Sterculia apetala*) that grow near the site (Sosa 1919:9-10). In 1517 Gaspar de Espinosa camped at the same village waiting for Pedrarias, who was pillaging the Pearl Islands and Taboga Islands (Altolaguirre y Duvale 1914:117-149; Biese 1964:8). In those years, according to Pedrarias, the village of Panamá was supposed to have been a gold-working centre, were the neighbouring caciques sent their unworked gold for its transformation into artistic pieces, administered by a cacique called Colí (Romoli 1987:154), even though Balboa later refuted this claim and no goldworking centre was ever found at the site[19]. In 1519, Pedrarias had Balboa executed for "treason".

Shortly after the execution, Panamá City was founded. It can be assumed that the Precolumbian village of Panamá ceased to exist as soon as or maybe even before the Spanish built their new settlement for shortly afterwards Pedrarias ordered the first official *repartimiento* - literally,

[19] Only one gold piece has been found in recent excavations at Panamá Viejo.

distribution of natives as servants for the Spanish – of Indians within his jurisdiction as governor of Castilla del Oro. In this *repartimiento*, the low numbers of Indians already show the negative impact colonisation had had on the local population (Castillero 1995:37-67). In its early years of existence, the town suffered from a lack of Spanish population and interest from the crown, because most of its inhabitants were busy exploring the rest of the Central American Isthmus, and in 1531 the first expeditions for the conquest of Perú set out. Following Pizarro's victory in Perú, the city saw economic prosperity as the riches coming from the South American colonies made a necessary stop in Panamá City on their way to Spain.

Over the years, the town grew to a more or less stable population, of around 5000 souls. At its peak, it reached approximately 10000 people (census of 1610), including whites, mestizos, and black and Indian slaves (Castillero 1994:68; Mena García 1984, 1992). Several fires destroyed many buildings, and in 1622, a major earthquake hit the city, levelling most of the masonry buildings, which belonged either to the wealthy colonials, the church or the state. In 1644 a major fire destroyed most of the city again. It was then when the Cabildo (Town Hall) and the Cathedral and its bell tower were rebuilt in stone. The bell tower's ruins are still standing, and have become "the" symbol par excellence for Panamá city, old and new.

On January 28th, 1671, after sacking the Atlantic Spanish fortifications of Portobelo and San Lorenzo, and a harrowing and daring trek through the isthmus, Henry Morgan and his pirate host began their attack on Panamá City. They were outnumbered and outgunned, but they somehow managed to destroy most of the city's defending armies and soon marched in – no fortifications existed – looting and pillaging to their heart's content. Most of the gold they were expecting to find had been secreted away by the Spanish, who knew the pirates were coming. The famous Altar de Oro that is now in the Church of San José in the new Panamá City is supposedly a survivor of the pirate's attack. It is said to have been covered in tar, camouflaged during the ransacking of the city. They still walked away from the ruined town four weeks later with a sizeable booty and scores of prisoners to sell as slaves. Depending on what side's story is read, each blames the other for the destruction of the city. The pirates' chronicler Exquemelin, says the Spanish Governor ordered the torching of the town in a desperate move, while Spanish sources blame the pirates for the fire that supposedly engulfed the entire city (Sosa 1919:130-136). The Patronato Panamá Viejo's research project is trying to gather evidence for such a vast conflagration but have yet to find any.

Fig. 4.1. View of model of Panamá Viejo in 1671, located in the Patronato Panamá Viejo site museum. The view is from the south east. The tall white structure is the Cathedral Bell Tower. Photograph by Tomás Mendizábal.

In the years after 1671, the site experienced several transformation processes. First of all, the abandonment was not immediate or en-masse, it was a gradual process, the survivors lingering around the town while the new city was built, some staying in their still standing homes. Some of the surviving buildings were used as quarry, as they were a readily available source of stone for the construction of the new Panamá City. By 1675, there was nobody left in the town, which was already being engulfed by the jungle, and only the Monks of La Merced stubbornly remained in their convent (Sosa 1919:136). They soon left too for the new settlement, and Panamá Viejo became a ghost town, a source of supernatural stories of hidden treasures and lost souls roaming around the ruins, visited only by treasure hunters and nail diggers, scavenging the ruins in search of valuable wrought-iron nails.

This situation persisted during the 18th and 19th centuries, and recent archaeological fieldwork has failed to detect any materials from this period. It was in the 20th century when, after Panamanian independence from Colombia, interest in the site arose. At the beginning of the century, it was surrounded by cattle haciendas, owned by the wealthy citizens of the new Panamá. During the thirties and forties, people from Panamá City, which in those days covered a much smaller area, started encroaching on the site, building their houses directly over the ancient location of Panamá Viejo's lower-class suburbs, Pierdevidas and Malambo. During the 1950's, in commemoration of the 50th anniversary of Panamanian independence, the government decided to build the Via Cincuentenario, one of Panamá City's main roads, which drives straight through the site, following the path of the ancient Calle de la Carrera, the main street of the colonial town. In

doing so, unwittingly, they managed to destroy or damage many of the ruins of the still standing masonry buildings.

At the same time, the site was cleaned of the natural overgrowth, and it was decided to build a commemorative park over the space formerly occupied by the Plaza Mayor (Main Square). It is not know for certain what happened, but recent archaeological fieldwork seems to indicate that the whole area of the Plaza was razed with machinery, and fills from different parts of the site itself were used to level the new park. They effectively destroyed or covered under the new fills the remains of a block of colonial houses directly to the west of the Plaza, and altered its original size and layout (Patronato Panamá Viejo 1996).

The organisation responsible for this was the short lived Consejo para la Belleza y Ornato de Panamá Viejo. They built the park and surrounded it with a paved "*canto rodado*" (cobblestones) and concrete cement street, in the shape of a horse shoe, which furthered the damage to the Colonial period features of the site, but simultaneously and ironically, protected the underground Precolumbian archaeological deposits from additional dangers. The new park and street, and all additional modern monuments completely covered all ancient levels of the Plaza. The fifties also witnessed the construction of a Panamanian army barracks and offices on the southern flank of the Plaza, with further disruption of underground deposits. This effectively erased any evidences on the waterfront of the Plaza, where at least one block of houses existed, according to colonial maps of the city (Castillero 1994:158; Mena García 1992 Fig. 5, 6, 7; see Fig. 4.5. and 4.6.).

Over the years additions were made to the crumbling stone buildings in an effort to "restore" them for visitors, and to prevent them from falling completely apart sporadic conservation efforts took place. As the modern Panamá City grew, more and more of its lower-income inhabitants moved to the outer poverty-rings, which now included Panamá Viejo, and they continued settling on the site's Colonial suburbs. The encroachment stopped more or less where the masonry ruins began. This hastened the damage to the site, as it regained its use as a quarry for building material, to construct some of these new houses. It is only since 1995 that the government has intervened, through the Instituto Nacional de Cultura (National Culture Institute) and the Patronato Panamá Viejo to protect what is left of the site against further harm. The ongoing archaeological project organised by the Patronato, and of which I was part, is determined to remove all foreign and modern additions to the site and investigate this practically virgin archaeological treasure.

Fig. 4.2. The ruins of the Cathedral and Bell Tower of Panamá Viejo, to the east of the Plaza Mayor. One of Panamá's main tourist attractions and the symbol par excellence of the city. Photograph by Tomás Mendizábal.

The Natural Environment of the Eastern Region of Panamá

The isthmus of Panamá is located between 7 degrees 12 minutes and 9 degrees 34 minutes of north latitude, and 77 degrees 21 minutes and 82 degrees 54 minutes of western longitude in the Intertropical Climatic Zone. Its current limits are to the north the Caribbean Sea; to the south the Pacific Ocean; to the west the Republic of Costa Rica and to the east the Republic of Colombia. Panamá occupies a territory of approximately 77000 km^2. Geologically it is formed by materials from the Tertiary Period, with volcanic rocks and sedimentary formations belonging to the Eocene Epoch (Casimir 1973:11, 2000:25-27). The Eastern Region is one of the rainiest of the country and is covered, in most parts, by a thick tropical rain forest, a situation seemingly very different from that of Precolumbian times (Cooke 1998c:87-104; Piperno 1991). From May to November, all of eastern Panamá receives close to 90 percent of its total rainfall. The Pacific side receives over 2000 mm and the Atlantic slopes over 3000 mm. December to April is the so-called "dry season" (Torres de Arauz 1975:15; see also Figure 3.4.).

Eastern Panamá is divided by the Serranía de San Blas and the Serrania de Darién, a continuous mountain chain running parallel to the north coast, dividing eastern Panamá into Atlantic and Pacific sectors. This central divide is a low range of 300 - 400 metres, with some heights above 500 metres, increasing gradually in the eastern part to peaks of between 600 and 700 meters. It lays closest to the north coast, forming a moist belt of slope forest along the Atlantic. Its width varies from six to twelve kilometres, with more deeply formed valleys, smaller rivers, and smaller alluvial plains than the Pacific lowlands. Consequently, a wider coastal lowland zone with varied

forest formations exists along the Pacific side, with the largest drainage basins, separated from one another by various upland zones (Drolet 1980:40-44).

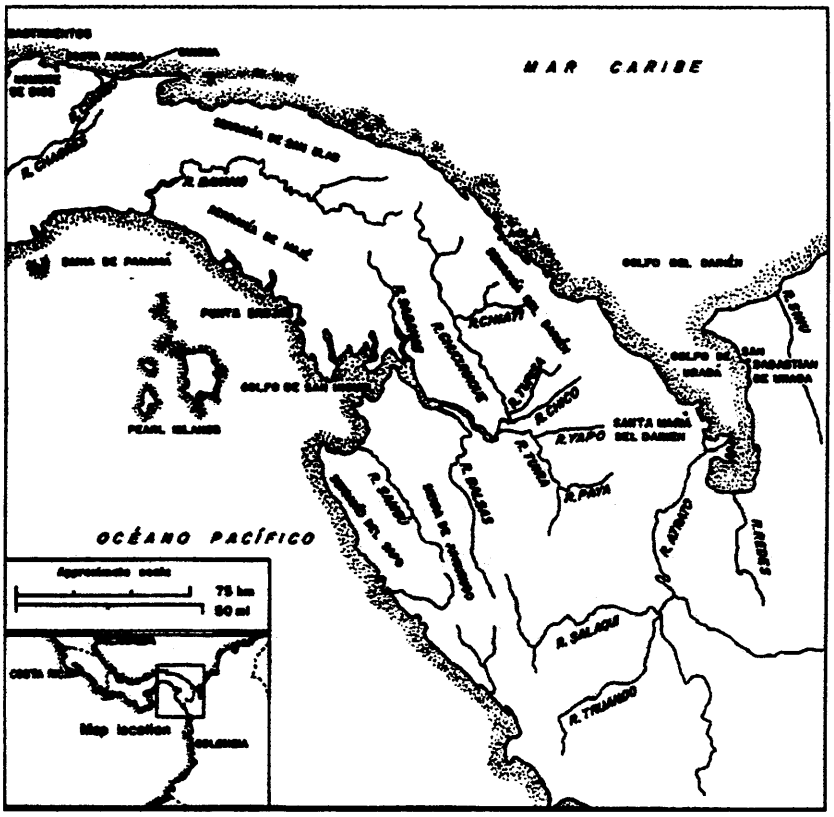


Fig. 4.3. Physical map of Eastern Region. Source Drolet 1980, Map 1.

Forest formations in Eastern Panama vary according to altitude and amount of rainfall. The Caribbean slopes support a true tropical rainforest with tall, broadleaf evergreen trees forming a canopy over the landscape, while lower-tier vegetation creates a two to three layered canopy structure, permitting little undergrowth on the forest floor. The Pacific slopes are dominated by deciduous species in both the upland and lowland zones, changing to more arid grasslands along the coast. From the lower Bayano river and running west along the coast, all the way to Panamá City, there is an area of predominately savannah growth interspersed with palm forests (Drolet 1980:44-46). The high canopy forests of eastern Panama provide valuable timber sources of hardwoods, generously scattered throughout the fifteen to forty-five meter moist slopes in both the Atlantic and Pacific sectors, resources which are being over exploited almost to extinction. The rich alluvial soils of the riverine lowlands provide one of the most extensive areas for agricultural activities in all of Lower Central America, similar in kind to the Magdalena and Atrato floodplains of Colombia (Drolet 1980:47). However, the soils of the lowland Caribbean region are extremely poor, not only because of their exposure to constant erosion from the rain, but also because they have not been renovated by deposition of volcanic material due to the position of the volcanoes on the Pacific slopes (Casimir 1973:11-14, 2000:32).

The largest rivers in the tropical forest region of eastern Panamá occur within the basins of the mountain chains. The most impressive of these is the Chucunaque-Tuira riverine basin in Darién province. These rivers flow over 150 km each, merging towards the Pacific with numerous large tributaries, wandering through the Darién forest. To the west the Bayano River drains an equally impressive 3500 km^2 area of lowlands on its 160 kilometre course. Its middle and upper courses contain wide areas of agriculturally rich floodplain soils like those located in the Chucunaque-Tuira lowlands. Approximately 250 rivers empty into the Pacific eastern Panama lowlands, most of which are associated with these two large drainage networks, making this area a rich riverine environment in which distant sections of the interior forest can be reached by watercraft moving along these numerous waterways (Drolet 1980:43).

The third largest river of Panama is the Rio Chagres, draining into the Atlantic with headwaters in the highlands of Pacora (Drolet 1980:43). It can be said that it is the largest and most important river near Panamá Viejo. During the Colony this river functioned as part of the trail that led to Portobello, on the Atlantic coast, when transporting goods to and from Panamá. It travels over 100 km before reaching the Caribbean waters west of Colón. It is currently dammed to provide water for the operation of the Panamá Canal, and drinking water for Panamá City. Along the rest of the Atlantic watershed area, only small to moderate in size rivers occur, ranging from 6 to 12 kilometres (Drolet 1980:43-44).

Precolumbian Period Environment

The natural environment of Panamá suffered many changes throughout Precolumbian times (Colinvaux 1997). The earliest human occupations, around 9000 B.C., are identified by lithic toolkits (Clovis and Fish-tail) found in rock shelters, in just 3 areas: Balboa, Madden Lake (both near Panamá Viejo) and La Mula-Oeste in Herrera Province (Cooke 1998c:92; Cooke and Ranere 1992:252-262). Other evidences of these Palaeoindian occupations consist of disturbances in pollen and phytolith percentages taken from lakebed cores. Neighbouring Panamá Viejo, in Panamá and Coclé Provinces, are two sites where these samples have been taken from, an ancient lake in the crater of an extinct volcano, El Valle, and another core taken from Lake Gatún (Cooke 1997:142-147; Cooke 1998c:91). There are also the marshes of Cana and Woodhouse Lagoon, near the headwaters of the Tuira river were core samples have also been taken (Cooke et al. 2003b:11). They show a steady decline in phytolith percentages of arboreal species making space for seed crops. "The earliest unequivocal record of phytoliths from maize...dates to ca. 4000 BP...". According to Piperno, "we believe it likely that crops were cultivated in the La Yeguada basin from at least 7000 BP onward...there is a significant decrease in arboreal phytoliths between 7000 BP and 3800 BP, mainly from trees of older forest" (Colinvaux 1997 Fig. 5-1; Piperno 1991:240).

Data from Central Panamá indicates the same pattern. Cores taken from Lake La Yeguada are consistent with the other samples from the Eastern Region. "The pollen record shows increasing frequencies of secondary woody taxa between ca. 6800 and 4000 BP, strongly suggesting removal of mature forest growth. These patterns are consistent with the supposition that slash and burn cultivation was practised in the La Yeguada watershed from the seventh millennium BP onward" (Piperno 1991:241). There is evidence for the centre of Panamá, which suggests that forest clearing for agriculture had been taking place as early as 9000 BC. "Over nearly 11000 years of habitat modification, apparently accomplished mainly with the use of fire, was pervasive and systematic (Piperno 1991:247). Again, Piperno states, "in virtually every available sequence from the tropics, highland and lowland, a period of agricultural intensification and attendant major forest clearance is initiated by 4000- 3000 BP. It is evidenced by strong decline of arboreal microfossils...in association with marked increases of herbaceous taxa and cultivars, usually maize..." (Piperno 1991:243).

It can be said then, that the deep forest cover of Panamá's highlands was severely denuded after thousands of years of cultivation by the indigenous polities inhabiting the country. These slash and burn practices led to an intensification of agriculture and food production, which in turn may have caused, in due course, an increase in population. The disappearance of forests in lieu of cultivated fields apparently continued until Contact, when the extermination of the native population let the doors open for the forests to retake lost ground. Today, most of the Eastern Region of Panamá is densely forested, and some areas are almost impenetrable. The Pan-American Highway, running from Alaska to Tierra del Fuego can not cross this region, hence the name, the Darién Gap. As the indigenous peoples were driven away from their fields of cultivation by disease, slavery, extermination and fear, "it thus appears that 350 years ago saw the regeneration of the forest around La Yeguada. The timing of this regeneration is securely placed during the Contact period....due to the relocation, miscegenation and decimation of indigenous Indian populations by the Spanish" (Piperno 1991:246; Cooke et al. 2003b:11-13; for a study on the demographic and ecological effects of the conquest, see Melville 1994).

The data for the area around Panamá Viejo are sketchy at best. There are no pollen or phytolith studies for the site itself. For the Contact period the only line of information is the ethnohistoric record of early 16th century Spanish chroniclers. They give a picture of the natural landscape consistent with modern phytological studies. The first European explorers to describe the Caribbean Coast of Panamá, among them Rodrigo Galván de Bastidas and Cristóbal Colón (Christopher Columbus), tell of rolling hills filled with cultivation. Fernando Colón, who accompanied his father Cristóbal on his fourth and last voyage, reports large areas of primary slope and forest disturbance, planted with corn by Cuevan groups. According to Drolet's study of the Costa Arriba area of Colón Province, "the variety and extent of secondary growth formations occurring along the lower slopes reflect the nearly 2000 year period that the forest zone has been

disturbed" (Drolet 1980:69-70). He states: "Fernando Colón's description of settlements in the Costa Arriba area...observing forest clearing, agricultural planting, dispersed household settlement, dress, and manufactured article...indicates that the population of Costa Arriba was related to other Cuevan provinces of the surrounding lowlands" (Drolet 1980:104).

More documentary evidence is available from some years later, well into Colonial times. As the indigenous population was decimated in such a short time, probably 30-40 years, the initial accounts attain a remarkable value. Kathleen Romoli's examination of the Cueva speaking peoples of Oriental Panamá assembles the testimony of various chroniclers. According to them, the Cuevan lands were "*tierra muy hermosa de riberos y campos*" (very beautiful land of rivers and fields), a peaceful countryside that easily sustained a sizeable population (Romoli 1987:30). Andagoya remarks that from the territory of Comogre (at the headwaters of the Bayano River Valley) the land consisted of "*tierra rasa y de sabanas*" (fields and savannah) where the houses or *bohíos* were "*de dos a dos leguas y de legua a legua uno de otro*" (one or two leagues between each house); Vasco Nuñez de Balboa, in a general report from the year 1513, describes the open hills of Pocorosa, "*las más hermosas del mundo*" (the most beautiful of the world). Espinosa, upon arrival from his first expedition to the Azuero Peninsula, states that from Comogre to the west, everything was "*tierra muy sana e todo sabana sin montes mas que las arboledas que hay en las riberas de los rios...tierra que de verano e invierno se puede todo andar a caballo tan bien e mejor que no la de Castilla*"[20] (in Romoli 1987:30; see also Sauer 1966:285-289).

It is clear then that the landscape of the entire Eastern Region in Precolumbian and Contact times stands in contrast with the one visible today. It is also apparent, from all sources of information, that the decrease of forest cover and the cultivation of numerous fields by the indigenous population, were not accomplished in a short period. According to Romoli, "it is not known since when these conditions existed, but it is evident that the region, with its environment of tropical rainforest, was not transformed into savannahs, cultivated fields and hills "*muy largas e sin ninguno monte*" (very long and without any bush), in a short lapse of time nor by a reduced amount of people. The reverse process, nevertheless, was a fast one" (Romoli 1987:30).

In the early years of colonisation, we hear of the rolling hills covered in cultivars. "Twenty years after the discovery of Darién, the (Bayano) valley was already being depopulated. After ten or fifteen years, the jungle had covered most of it, and one could hardly open one's way by using machetes, where before the Captains of Castilla rode easier than if they were in Spain (Romoli 1987:30). Romoli also cites an interesting fact: "up to 1520, an expedition with luggage, horses and slaves could march from Acla (on the Caribbean coast) to Panamá in nine or ten days. In 1538, a company with relatively few impediments needed twenty days for the same voyage. By

then the port of Acla was the only Spanish settlement in the eastern parts of Cueva, and the scarce traffic with Panamá, travelled by sea to Nombre de Dios (Romoli 1987:95 footnote 15).

Surely some of the population estimates given by the Spanish are exaggerated, as differing views gave different amounts. The few Spanish colonists who were against the native's extermination speak of millions of souls, especially Fray Bartolomé de las Casas (Castillero 1995:37-53). Meanwhile some support the other extreme, a picture that was and is still widely believed throughout Latin America, namely, that when the Spanish first arrived, the American continent was a semi-deserted paradise, where only a handful of savages roamed, ready to receive Christendom and civilisation. Of course, a more moderate version is probably nearer to the truth. Nevertheless, by 1550 the situation was of an almost complete abandonment of the once fertile and prosperous lands of Darién. The jungle retook the valleys and pastures, and soon what is now called the Darién Gap was born, a thick wall of jungle stretching more or less from Chepo all the way to the Gulf of Urabá and deep into Colombia (Sauer 1966:283-289).

The Natural Environment of Panamá Viejo

The present day site of Panamá Viejo lies in the centre of modern Panamá City, the capital of Panamá Province and of the Republic of Panamá. The ruins occupy an area of approximately 28 hectares, which are the remainder of the original 70 hectares the site probably took up. The surviving structures are the remnants of elite Colonial society as it was only the very rich, the Catholic Church or the Colonial administration who could afford to erect masonry buildings, utilising stone and mortar for the main walls. The rest of the town, the parts which have now disappeared, were built of wood, or a combination of wood and stone. The "middle class" neighbourhoods had wooden houses, probably with stone wall foundations, and the lower class suburbs were composed of wooden shacks or *bohíos*. As the new city and its suburbs have slowly encroached upon the site, only the areas where masonry buildings stand have not been reoccupied during the 20th century. The resulting situation is a reduced site of Panamá Viejo, surrounded by a suburban sprawl of low-income families. Ironically, today's poor are living in exactly the same place where the Colonial period lower class suburb once stood. The conditions of poor Panamanians have not changed much in the last 400 years.

Precolumbian and Colonial Period Environment of Panamá Viejo

There are no detailed environmental studies pertaining to the ancient conditions of the natural surroundings of Panamá Viejo, nor of the geomorphologic changes of the site's coastline, which has also changed at least in the last 300 years. What is known today for the immediate area around Panamá Viejo, comes from ethnohistorical sources written by Spanish chroniclers of the early 16th century and deals mostly with the post-Contact period. For the Precolumbian period

[20] Very healthy land, all savannah, without bush except the tree growth by the rivers...a land that in summer and winter

extrapolation is possible from archaeological and palaeobotanical findings – as explained above – from the rest of the Eastern Region of Panamá, in which Panamá Viejo is located, and those same ethnohistorical accounts.

In Colonial times some of the richer townsfolk owned several haciendas on the outskirts, dedicated to cattle growing. These herds of animals turned the surrounding area of the town into denuded hills with no tree cover. "Originally it was a broad and grassy plain surrounded by multiple low hills and fronted by the sea. The climate was milder and always had less rainfall than the Atlantic side of the Isthmus. Food was easily obtainable the year round from the abundant deer, peccary and other small game, and easily caught fish of the gulf" (Biese 1964:5).

Due to the lack of proper and clear data, some other authors offer a differing view. Mena García (1992:55) indicates that the zone around Panamá Viejo was covered in thick vegetation that served as cover for bands of free black slaves, *cimarrones*. Some of the earliest inhabitants and visitors of the town complained repeatedly about the poor choice of location for the settlement, speaking of the adverse conditions of the environment, an unhealthy climate, and an exuberant vegetation, almost impenetrable and dotted with swamps (Mena García 1992:37), that caused disease and death among the Spanish. This scenario, however, may relate to a later time, after the extermination of the Indians allowed the jungle to grow back. In 1607 the townsfolk still complained about the land being very poor for agricultural purposes, and that "*la más de la tierra es montuosa y estéril; los montes llegan por la parte del norte a tres leguas y a dos, y a legua y media de la ciudad....al occidente hay alguna sabana buena, pero la más es tierra doblada entre collados y llanuras y así es también la poca que hay en la parte del Norte antes de los montes*"[21] (Mena García 1984:103). The Pacora savannah, on the other hand, some kilometres to the east of the city, offered fertile lands and appropriate pastures for cattle, one of the main businesses of the city. Some of the richest haciendas belonging to the wealthiest inhabitants of Panamá Viejo were located in that area (Mena García 1992:55).

Following the town's abandonment in 1671, the jungle took over the area. In the 19th and 20th centuries visitors started coming to the ancient ruins to gather curiosities. Photographs from the late 19th century clearly show a dense plant overgrowth covering most of the stone ruins, serving as home to a great variety of animals. Only the Cathedral's ruined bell tower was barely visible (Sosa 1919).

In the early 20th century the Lefevre family owned an enormous lot directly to the north of the site, which they started gradually selling. Today it is known as the Corregimiento (borough) of

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can be ridden by horse as well as or better than in Castille. (translation by the author).

Parque Lefevre. During the 1930's and 40's the new city started to develop suburbs and the modern neighbourhood of Panamá Viejo was born, right on the spot where the suburbs of the ancient city had stood. The last 40 years have seen an exponential growth of the new Panamá City, and the ruins, now an archaeological site, have been surrounded by a modern urban sprawl; once engulfed in the wilderness, they now stand in the centre of modern Panamá City.

Panamá Viejo's natural surroundings and limits

During Colonial times, the settlement probably covered an area of approximately 70 hectares. The centre of the town, where the main Plaza and Cathedral stood, was located on a rocky outcrop adjacent to the mouth of the Gallinero river. The town had a rough L shape, and the centre was located in the south east corner of the L. To the north it was bordered by a large and unhealthy swamp, to the south the Bay of Panamá, to the east the Gallinero river now called Río Juan Díaz, and to the west the Algarrobo river, now called Río Abajo. Across the Gallinero river and further east, the entire coast line was and is still covered for miles in a thick mangrove environment, which extends into the main land for several kilometres, turning practically into a rain forest.

The settlement did not procure a sound port, for the whole coastline was and still is covered in a huge mantle of organic sludge, a natural condition of this part of the coast, which is a mangrove environment. This sludge extends up to 1 kilometre from the beach line, rendering the site unapproachable by sea during low tide, when the sludge becomes exposed; during high tide, only small vessels could approach. Consequently, only the mouth of the river Gallinero served as a harbour for the ships that constantly arrived, most effective during high tides. Spanish chroniclers report this situation, calling this sludge "La Tasca", because ships became "*atascados*" (stranded) in it, and if anybody was unfortunate enough to fall in it, they were soon lost. "In a letter from Nicolás de Cardona, a sailor arrived in Panamá in 1619, he says "*...desde la ciudad se ha de esperar a que sea pleamar para que los barcos puedan salir o entrar y tal vez se quedan atascados y se ahoga la gente por ser el fondo de lama o tazca (trabajo insufrible)...*"[22](Castillero 1997).

Due to the poor natural conditions, low tides, pollution from the shipbuilding and repairing industry, the drainage system of the city, and constructions on its borders, silt gradually built up in the harbour of the town. The result was the silting up of the port, rendering it completely useless. From 1585 onwards, the main port of the town was located at the islands of Naos, Perico and Flamenco, some 10 kilometres to the west of the city, where the large ships docked and unloaded

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[21] "Most of the land is full of bush and sterile; on the north part the bush is three, or two or one and a half leagues from the city....to the west there is some good savannah, but most of the land is broken between hills and plains and so is the little savannah there is to the north before the bush starts..."

[22] ...from the city it is necessary to wait for the high tide for the ships to go in and out and sometimes they can get stuck and the people drown because the bottom is of sludge or marsh... (an insufferable toil)

their cargoes, which were then taken by canoes to land, and then by mule to the city (Mena García 1992:67-68).

Fig. 4.4. Panamá Viejo beach at low tide. The exposed sludge can be seen from the sand's edge to the waves,. The buildings across the beach are in the Coco del Mar neighbourhood. Photograph by Tomás Mendizábal.

As for the geomorphologic changes experienced by the coastline itself, with the current state of research, they can only be traced through the ethnohistorical record. In two maps drawn in the beginning of the 17th century, (by Juan Bautista Antonelli in 1586, Fig. 4.5., and Cristóbal de Roda in 1609, Fig. 4.6.) the contrast with today's coastline is clear. Today's shore line presents an almost half-moon shape, where erosion carried out by the waves has consumed the coast, to the point that some of the masonry ruins, which formed the "harbour" of the town, are now almost entirely under water at high tide. The progressive erosion to the site since the contact period has eaten away a considerable amount of shoreline and cultural deposits, and it is unknown since when this erosion process has been taking place.

The southern, western and eastern limits of the town remain the same. The swamp to the north has now disappeared, replaced by the modern neighbourhood of Panamá Viejo, a low-income suburb of Panamá City, and further north by El Jardín de Paz, a large cemetery, which is in essence a land fill set over the swamp. It is property of the Lefevre family, as used to be much of the area around the site at the beginning of the century. The mangrove area to the east has been severely disturbed as well. This entire sector is now being developed into high-class suburbs of the new Panamá City (the new walled city of Ciudad del Este), and a ring road for high-speed automotive traffic has recently been built (Corredor Sur), across the mangrove, crossing the Juan Díaz river. It then proceeds over a sea bridge constructed on concrete pylons, through the organic

sludge on the coast, at barely a couple of hundred metres from the site, connecting again with the mainland near the modern neighbourhood of Coco del Mar.

Fig. 4.5. Antonelli's representation of Panamá City in 1586. The wall shown was never built. Source Patronato Panamá Viejo http://www.panamaviejo.org

Fig 4.6. De Roda's representation of Panamá City in 1609. Source Patronato Panamá Viejo. http://www.panamaviejo.org

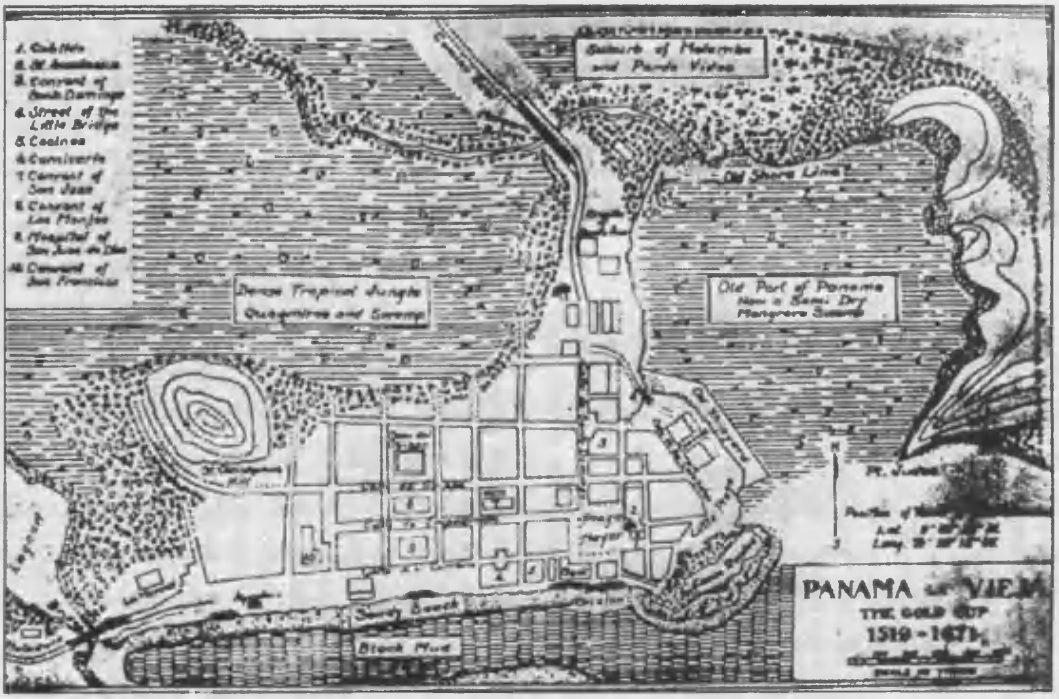

Fig. 4.7. Map of Panamá Viejo ruins at the beginning of the 20th century. Source Biese 1964 Map 1.

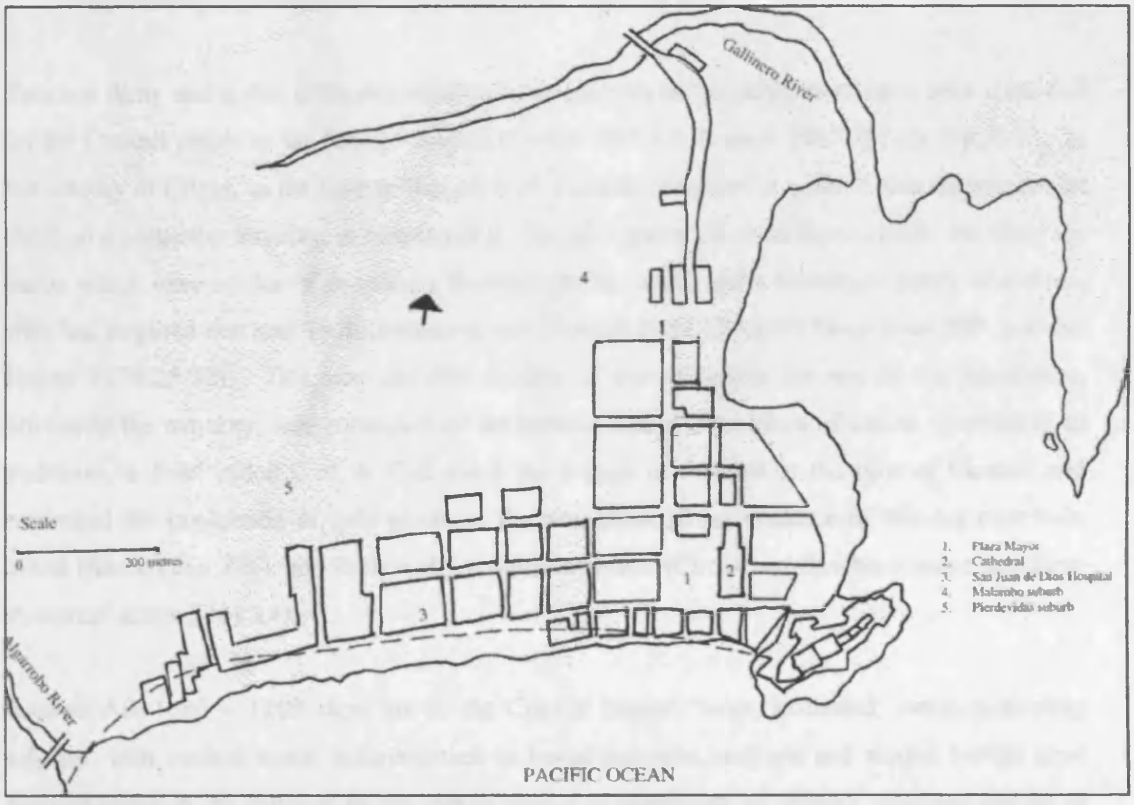

Fig. 4.8. Schematic Map of the ruins of Panamá Viejo. The dotted line follows approximately the line of the present day coastline. Source Mendizábal 1999.

Profile of the People of Panamá Viejo: inside Cueva Country

Panamá Viejo at Contact times lay in the Eastern Region, occupied by the Cueva peoples, though it is unknown how far back in time this specific group occupied the site or the region. This Cueva country extends roughly from Chame to the western shores of the Gulf of Urabá. Therefore, a summary of Cueva culture is necessary to give the reader an idea of the possible cultural background of the villagers of Panamá Viejo, in the times immediately before and up to the Contact period.

During the last period of the Precolumbian era, the population of the Oriental Isthmus was composed of many politically independent tribes or groups most of which belonged to the same ethnic complex and shared similar customs, beliefs and social systems and all but a few spoke the same language, Cueva (Romoli 1987:179). Cueva country presents a sedentary and agricultural society, characterised by stratified hereditary classes, a monarchical, feudal and nationalistic political regime, and a rather 'simple' (author's emphasis) religious system (Romoli 1987:104). The Cueva chiefdom was a monarchic and autonomous state, whose population formed a nation in its own right, and its territory was clearly delimited by boundary markers. The chief was absolute sovereign, supreme commander in war, arbiter of "international" relations of the state, and unappealable judge in matters of justice (Romoli 1987:126).

Between thirty and eighty of these chiefdoms (*cacicazgos*) or "principalities" have been identified for the Contact period in the Eastern Region (Drolet 1980:12; Romoli 1987:29; see Fig. 4.9.). In the country of Cueva, as the Eastern Region is also called, the *quevi* or *quibián* was the paramount chief of a particular territory, administered by his elite group of subordinate chiefs, the *tiba;* the *sacos* which were nobles of prominent families and big men, and a hereditary gentry of *cabras*, who had acquired that rank by distinction in war (Romoli 1987:117-118; Sauer 1966:239; see also Helms 1976:25-32). This was the elite faction of society, while the rest of the population, obviously the majority, was composed of commoners and a lower class of slaves. According to Pedrarias, a chief called Cori or Colí ruled the village of Panamá at the time of Contact and controlled the production of gold pieces at the site, although no evidence of this has ever been found (Sauer 1966:276), and Balboa claimed this was false (Cooke and Sánchez choose to believe Pedrarias' claim 2001:14).

Around AD 1000 – 1200 there are in the Central Region "large, nucleated, maize-cultivating villages, with marked social differentiation in burial practices, and urn and mound burials have become common, as opposed to the almost exclusive occurrence of primary extended burials in previous times" (Cooke 1984 Table 10.1). "On the eve of the Spanish conquest, Panamá was peopled by indigenous groups of diverse tongues and cultural traditions that practised some form of agriculture complimented by hunting, fishing and the gathering of small aquatic vertebrates and

invertebrates. In the most fertile and productive territories – for example, near the large estuaries of the Pacific coast and in some of the intermontane valleys to the west of the country – villages of 1000 – 2000 souls were established, grouped in territories whose total population could have surpassed the 10000 inhabitants mark" (Cooke 1998c:115).

Fig. 4.9. Approximate location of 16th Century Cueva Chiefdoms. The language "frontier" at Contact lay near the Chiefdom of Chame. Source Romoli 1987:32-37.

This is in contrast to the descriptions gathered for the Eastern Region. Most chroniclers indicate fairly dispersed settlements throughout the land, although there are many conflicting reports, some saying that there were no large densely populated settlements and others that there were some. The Cueva chiefdoms controlled wide areas of rich agricultural lands, and some of the polities maintained coast-to-coast settlements, controlling a wide diversity of Atlantic and Pacific ecological zones. Each polity had a sizeable dispersed farming population (Drolet 1980:13). Individual provinces were divided into territorial units supporting a large rural population, an organised military, and an elite social class under the command of the chief, whose primary responsibility was to regulate food production (Drolet 1980:142-143).

According to Romoli, with very few exceptions, there were no proper "towns", for the seats of the chiefs were no larger than a hamlet and most of the houses were spread around the fields and away from the coast (Romoli 1987:103). She states that the Cueva did not have proper villages, living in small neighbourhoods, houses away from each other, although Cooke disagrees with this

affirmation (personal communication 2002). According to the chroniclers, around each house one finds the garden, fruit trees and the cultivated fields "*cada uno donde sembraba, alli hacia su casa*"[23]. In densely populated parts, each hamlet was separated from 5 to 10 km from the next, and some had no more than four or five houses. They had no fortifications, did not live on the margins of the rivers, and the fields were in the valleys and the secondary river basins. Most of the hamlets were located some leagues inland, even on the coastal chiefdoms (Romoli 1987:145-146). In general there were said to be no towns or villages (Sauer 1966:240).

However, there are reports of densely populated areas. At Contact with the Spanish, the most concentrated occupations were in the lowlands of the Bayano and Chucunaque rivers, the Bay of San Miguel, the Caribbean slopes along the lowland basin of the Atrato river, consisting of standing armies and rural farmers. The main chiefdoms were Careta, and Ponca of the Chucunaque river basin and Comogre, Pocorosa and Tubanamá from the Bayano river basin. Comogre was a major settlement on the upper Bayano, with smaller settlements on the tributary rivers and extending up to the Caribbean Coast with important coastal settlements. Oviedo says there were 3000 warriors and 10000 people at Comogre's seat, although they may have been gathered there as opposed to living there (Drolet 1980:120-125). Romoli estimates that the smallest chiefdoms perhaps counted no more than ten families, while the most powerful could have from 8000 to 15000 inhabitants. Mid range chiefdoms, which were the majority, should have had between 2500 to 3000 inhabitants, with 500 to 700 warriors (Romoli 1987:29).

Around the Gulf of San Miguel Balboa visited a dozen well-populated provinces. The major settlements were away from the coast on the lower course of rivers, even if their economic orientation was largely maritime. The relationship between Pacific coastal provinces and the interior riverine chiefdoms is not entirely clear, but the former had smaller territories than the latter, and there seems to be a clear distinction between the two (Drolet 1980:138-139). Ultimately it could perhaps be said that there were coastal as well as inland chiefdoms, with riverine and coastal settlements, some densely populated, some not. Panamá Viejo was clearly a coastal settlement, located on the beach itself, with direct access to maritime resources.

The chief would reside in generally larger structures than the average hut or *bohio*, the rectangular wooden hut for the commoners. Some of these structures were large and sumptuous, such as the "palace" of chief Tubanamá, and that of chief Comogre, which was said to measure 150 by 80 *pasos* (steps). These structures were not only the residence of the chief but also the place from which he gave audience to his subjects, conducted social gatherings and ritual. Comogre's and Chiman's even functioned as a mausoleum for the desiccated remains of their ancestors, a

[23] "wherever one planted, there one built his house".

widespread custom among the Cueva (Romoli 1987:142-144; Sauer 1966:240; Cooke et al. 2003a).

The village of Panamá was apparently reliant mostly on maritime resources for sustenance, especially from shallow waters and mangrove environments such as those found in the immediate vicinity and in the rest of the Bay of Panamá. According to the Spanish, a fish they called "sardines" saved the early colonists from starvation, before a sound agricultural basis for the Colonial settlement consumption was organised (Mena García 1992:37; 2003). Fishing was a very important activity especially for coastal settlements, such as Panamá Viejo, and apparently the main staple of the Indian diet, though they also consumed agricultural products, and hunted relatively few species of terrestrial mammals (Cooke 1998c:83; also see Cooke and Ranere 1994). The Cueva, "*tiene por principal mantenimiento suyo el pescado, assi porque son muy inclinados a ello, como porque con mas facilidad lo pueden aver en abundancia é á menos trabaxo que las salvaginas de puercos é venados, que tambien matan é comen*"[24] (Oviedo in Romoli 1987:158). Clam (*Donax spp.*) and anchovy species (*Engraulidae*) remains have been found inside the funerary offerings for Tumbas 1, 3 and 10 (see chapter 5).

The ethnohistorical sources say that in Cueva, burial practices belonged exclusively to the elite, while the commoner was simply thrown in the bush without burial. The chronicles relate of elaborate burial customs of the chiefs of Cueva, who were desiccated and kept in mausoleums in the chief's main settlement. The Spanish witnessed these events in the burial of Chief Pocorosa, and also in the provinces of Comogre and Chimán. A lengthy funerary ritual of mourners lamenting the departure of the deceased accompanied this mummification process, and some Cueva groups would commemorate the anniversaries of the death of their chiefs with sumptuous celebrations. The sacrifice of retainers seems to have been rare, but known to happen, and Oviedo states that it was practised in the provinces of Natá (in the Central Region), Panamá and Pacora. The chronicles do not mention secondary or urn burials, and Romoli believes it is because they were not part of Cueva funerary ritual (Romoli 1987:142-145), although this assertion is to be taken with care. Urn burial was still common in the Central Region, as was the sacrifice or ritual suicide of retainers for interment with the chiefs (Lothrop 1937, Torres de Araúz 1992).

Romoli gives a summary of the main identifying Cueva traits: "dynastic rulers, stratified society, a hereditarian and feudal nobility, nationalist organisation, monogamy, endogamous and within class matrimony, desiccation of the dead, conservation of ancestors' bodies, the moon as a feminine deity, abstention from blood sacrifice, marks of property, residence in rural

[24] They have for main sustenance fish, because they like it very much, and also because it is easier to catch in abundance and it is less of a toil than hunting for wild pigs and deer, which they also kill and eat" (translation by the author).

neighbourhoods...wooden drums and skirts". All these traits are present in the Cueva populations and absent in the modern Kuna Indians of Kuna Yala and Darién (Romoli 1987:178-179).

The Cueva had lived in the Eastern Region long enough not to remember any other homeland, but not so long to form completely separate dialects out of a single language between the different groups (Romoli 1987:180). As explained before, within a few decades of Contact with the Spanish, the Cueva people disappeared. The jungle reclaimed their abandoned fields and settlements, and even the Spanish left Darién to settle Panamá Viejo. Even though the very term Panamá is a Cueva word, their disappearance was so complete that they were erased from the memory of the country's new inhabitants and their descendants. Their existence is not taught in school either and most modern Panamanians ignore they were ever there.

Biese and the Patronato excavations report habitation and cemetery sites at Panamá Viejo. The Patronato Panamá Viejo 2001, 2002 and 2003 field seasons have uncovered another habitation site at the western edge of the site, near the Morelos monument, with the same date range as the midden excavated for this dissertation (see Tables 5.4 and 5.5.; Martín 2002a and personal communication). These facts shall be reviewed in chapter 5.

Ethnohistory and the concept of time

Ethnohistorical data from European Contact times is useful, but it must be kept in mind that it refers to a period that was only the latest in the long history of settlement in the Eastern Region in general, and at Panamá Viejo in particular, when the Spanish found the "miserable village of fishing Indians" (Sosa 1919:13). These accounts are also loaded with European bias against the native "devil worshippers". Extrapolating the descriptions of chroniclers from the 16th century to periods in time further in the past has often led to ambiguous conclusions of an assumed socio-political continuity and stability. Cultures that had been almost destroyed were observed after the fact by the chroniclers, and then these wretched remnants of a once prosperous people were taken as representatives of the best those societies could offer (DeBoer et al. 1996:263). Often this view is then extended to their more remote past as well.

Ethnohistorical sources frequently share a similar pattern. The first colonists to arrive describe in wonderment and with guarded respect the peacefulness and nobility of the Indians, followed by the accounts of later voyagers who see only savages, cannibals and devil worshipers to either kill, enslave or convert to Christianity. So even when attempting to further the "Indian cause", what was fostered was the creation of the image of the noble savage which has plagued the continent ever since the conquest. The sources also give an impression of continuity, which is seen as adverse, whether they are talking about the idyllic Indian paradise or the heathen inferno, the Indians seen as having lived in that form for a very long time, if not since creation. Even today

when using these texts to study the Precolumbian past there is always the danger of assuming that very little change occurred in these societies over lengthy periods of time, reaching the same biased conclusions of the early Spanish settlers. All the early chronicles were written before linear or non-linear time emerged as concepts themselves, yet under the heavy influence of their catholic religion the chroniclers saw Spain and its emerging empire as the epitome of humankind, while they debated even the very humanity of the Indians.

This very biased ethnohistorical record together with the linear progressive concept of time as seen in chapter 1, has inspired one of the main questions generations of social scientists in Panamá have always asked: why is it that Panamanian chiefdoms never developed into a state? Also in the entire Intermediate Area, Precolumbian polities were frequently compared, in scientific and lay literature, and judged as developmental dead-ends or backwaters, inferior to their Mesoamerican or Andean counterparts. The apparent stability and continuity, which must be proved and not assumed, are seen in a derogatory light. Such situations tend to occur with greatest frequency in cases where more "advanced" societies with monumental architecture and highly stratified societies are adjacent to less complex societies. The simpler societies traditionally have been seen as having "failed" to evolve higher organisational levels comparable to their more complex neighbours (Lange 1992:278). In the past, and for much of the 20th century, taking the ethnohistorical sources at face value led many historians to believe that the peoples living between areas of "high civilisation" were indeed nothing but savages. "Rather than failure, the relative isolation of these less complex societies, their economic self-sufficiency, and their ability to passively resist external influences are unquestionably indications of success" (Lange 1992:278; Sheets 1992). Recent information, reviewed in later chapters, seems to corroborate to some degree the image of stability and conservatism in Precolumbian Panamanian society. However, this must be proved, explained, and not assumed to be the norm; that is, the cultural reasons behind this supposed conservatism and continuity must be explored. And if proven, it can no longer be seen as cultural stagnation or "involution". If constant cultural change is seen as inherent to human society, the question can now be: how did they manage to avoid the state, or a more complex organisation for so long a time?

After an introduction to the site, its people, history and layout, the recent, groundbreaking archaeological work at Panamá Viejo, and the fruits of this research, which are central to this thesis, shall be reviewed. The main protagonist of the new investigations is the Patronato Panamá Viejo, a purpose built organisation designed to study, preserve and protect the site. Panamá Viejo and the Eastern Region, with their incipient pottery typologies and chronologies offer a perfect testing ground on which to construct time, confronting the taxonomical and the modal methods of classification.

Chapter 5
The Excavations and the sample from Panamá Viejo

Introduction

This chapter describes the Patronato Panamá Viejo excavations at Panamá Viejo. The Precolumbian archaeological materials recovered in the field seasons of 1996, 1998 and 1999 constitute the basis of this dissertation. One of the aims of the present work, apart from studying the creation of time, is also to underline and promote the innovative and exciting work being carried out at Panamá Viejo, and the extraordinary potential for research this site offers for a host of different specialists.

Panamá Viejo is probably the largest and best-known archaeological site in Panamá. It is an almost obligatory stopover for tourists visiting the country along with the Panamá Canal. It also holds a special place in the minds of Panamanians, as the ruins of bell tower of the Cathedral of Panamá Viejo have come to symbolise the City of Panamá as a whole, used even as the insignia for the city's police. Now that the Patronato Panamá Viejo research project has demonstrated that it is a multi-component site, its importance and relevance have been redoubled.

Previous Archaeological Investigations in Panamá Viejo

Visits to the ruins of Panamá Viejo started during the 19th century, when tourists picnicked and explorers picked up curiosities from their journeys. During the first decades of the 20th century there was an interest in the site from American military personnel stationed in Panamá during and after the construction of the Panamá Canal, and in 1913 E. G. Dexter and D. Morton made a detailed model of the standing ruins of the masonry buildings and the site in general, which was then displayed in a case at the Panamá Canal Museum in the former Canal Zone (Castro Stanziola 2001). It stands today in the Panamá Canal Library.

There is also photographic evidence from the same period that some restoration and conservation work was carried out in the site. In pictures obtained by Brizuela from the Panamá Canal Library (Patronato 1998a), it is possible to see the building equipment of the conservation crews who apparently restored some of the Colonial period streets, repositioning cobblestones. This work was probably carried out for the celebration of the 400th anniversary of the foundation of Panamá City, involving a parade and official acts in the Plaza of Panamá Viejo, meaning that the site was already in use, at least for commemorative purposes (La Estrella de Panamá, August 15th 1919). Modern residents of Panamá Viejo have reported that lavish parties and dances were held in the area of the Plaza, during the 1950's and 60's.

Leo Biese, a resident of the Canal Zone and amateur archaeologist (Biese 1964) carried out the first serious recorded archaeological intervention around the site. He followed the leads given by previous work at the site by Hale Morgan Smith, an American Air Force employee, and the National Museum (Biese 1960:37). Biese focused his interest on a patch of land north of the main group of masonry ruins, where the ancient suburb of Malambo had stood. In the 1960s, this land was part of one of the cemeteries for modern Panamá City, El Jardín de Paz. The site Biese excavated was discovered "in 1958 during grading operations preparatory to the expansion of the cemetery" (Biese 1964:7).

In 1967 George Long conducted a series of test pits in and around Panamá Viejo to establish a chronological series for Spanish majolica pottery (Rovira 1997:3; Long 1967). He defined the basic types and varieties following John Goggin's classification (1968) but his main interest lay in the Colonial history of the site, and did not dwell upon its Precolumbian occupation. Nevertheless this offers an interesting contrast when building "culturally real" ceramic types for pottery from which an "emic" classification is known, such as Colonial Period pottery, and for pottery whose "emic" categories are lost, such as Precolumbian pottery. Knowing the categories that Spanish potters used from the textual evidence obviously facilitates the work of the typologist.

During the seventies, Miranda reports the finding of a Precolumbian shell midden in the coastal area to the west of Panamá Viejo, in the modern day neighbourhood of Coco del Mar. "In Avenue 5A of Coco del Mar in San Francisco, Panamá City, we find the residence of Dr. González Revilla, located atop an artificial prehistoric shell midden that contains great quantities of fragmented ceramics on the surface, and a whitish layer of shells, altered by the hand of modern day residents" (Miranda 1974:134). In personal conversations with several residents of Panamá Viejo, they have reported the accidental findings of skeletons and pottery all over the coastline of the site and the neighbourhood of Coco del Mar. Even though many of these stories are complemented with fantastic tales of Spanish tunnels and hidden pirate treasures, there are people who swear to have been eyewitnesses to these finds.

The 1980's saw a renewed interest in Panamá Viejo. José María Cruxent and Jacinto Almendra again excavated some test pits to recover Spanish ceramics, and apparently found Precolumbian pottery as well. Neighbouring the northern limits of the site, near Biese's Precolumbian settlement, they found the remains of the Colonial era pottery kilns, which were soon buried under modern fills for the ever-growing Jardín de Paz cemetery (Almendra, personal communication; Rovira 2002:6-7).

Luis Almanza also excavated in Panamá Viejo, during the 1980's, again focusing on the Colonial era for his research (1982 and personal communication). He was followed by Carlos Fitzgerald

(1990), who excavated the Casa del Obispo, a Colonial house immediately to the north of the main entrance to the Cathedral of Panamá Viejo. Beatriz Rovira, the current head of the Patronato Panamá Viejo Archaeology Department, also conducted some test pits near the shoreline in the vicinity of the present Patronato offices (personal communication).

In 1997 and 1998 Aguilardo Pérez discovered and excavated several Precolumbian sites, during the Environmental Impact Assessment for the construction of the Corredor Sur, a ring road for Panamá City that runs through an area of mangrove with a length of at least 20 km., immediately to the east of Panamá Viejo across the Juan Díaz River. The sites in question revealed Precolumbian pottery and other features (personal communication) but the material is yet unpublished. I had access to this material in the Instituto Nacional de Cultura offices, and while it still remains to be analysed, formal and decorative similarities with the pottery excavated by the Patronato Panamá Viejo team are evident.

Patronato Panamá Viejo

It was not until 1994 that major steps were taken by the government and private entities to tackle the Panamá Viejo heritage management issue. In the middle of a heated debate involving national and international institutions, the "Foro de Panamá Viejo" took place, dealing with issues such as the conservation, research, publication, and economical potential in tourism for the site. From this forum, the decision was made to hand over the administration of the 28 hectares of the site to a purpose-built, non-profit organisation, the Patronato Panamá Viejo.

Four partners constitute the Patronato: The Instituto Nacional de Cultura (INAC) and the Instituto Nacional de Turismo (IPAT), from the government, and the Kiwanis Club and the Banco del Istmo from the private sector. They form a "Junta Directiva" which administers the site, aided by a technical committee of on and off-site scientists. It is with this organisation that a new era of investigation came about for the ruins of Panamá's ancient capital.

Working in Panamá Viejo presents several advantages. Logistically speaking, its situation in the centre of Panamá City provides easy access to the site. For archaeology, it is particularly advantageous since it is a time capsule: everything relating to the Spanish colony is contained within the AD 1519-1671 time span. It is a multi-component site with not only the Colonial settlement, but also the earlier Precolumbian occupation underneath the Spanish ruins. The multivariate nature of the evidence and the sheer size of the site have provided work for a host of specialists, from anthropologists and archaeologists, to restoration architects, physicists, and biologists.

The current archaeological project has uncovered and restored the "original" layout of the *Plaza Mayor* (Main Square) and its surrounding area, including the buildings around it. Research has

brought to light evidence from the Colonial occupation in the 16th and 17th centuries (Rovira 1997, 2001, 2002) as well as Precolumbian remains. In field seasons since the beginning of 1996, most of the area around the Square has been excavated. Together with Alvaro Brizuela, I participated in these excavations as Assistant Archaeologist, under the direction of Dr. Beatriz Rovira, Project leader. Excavations have continued with field seasons every year up to the present, apart from an entire host of other work, including the conservation and restoration of the standing masonry monuments, and the progressive and eventual creation of an archaeological park of Panamá Viejo, isolated from the rest of modern Panamá City and the vehicular traffic that is currently affecting it.

Fig. 5.1. Map of Panamá City. Source Instituto Panameño de Turismo. http://www.ipat.gob.pa

Fig. 5.2. Aerial photograph of Panamá Viejo. The white roofs belong to the neighbourhoods of Panamá Viejo (left) and Villa del Rey (right). To the north of the former lies the Jardín de Paz Cemetery. 1 = The Plaza Mayor, and directly to the east of it are the Cathedral and the Bell Tower. 2 = Casas Reales. 3 = Morelos Monument and the new Patronato Panamá Viejo Visitor Centre. 4 = Puente Del Rey crossing the Gallinero or Juan Díaz River. 5 = Approximate location of Biese's site. Original photograph taken at 1:4000 scale. Source Patronato Panamá Viejo and Instituto Nacional Geográfico Tommy Guardia.

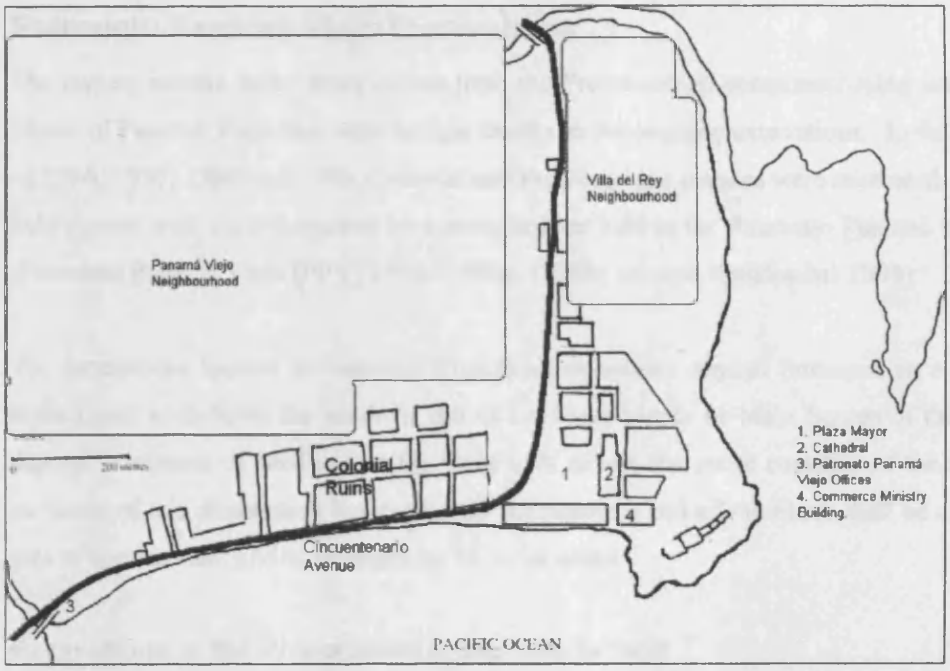

Fig. 5.3. Schematic Map of Panamá Viejo today.

Fig. 5.4. Aerial photograph of area around Plaza of Panamá Viejo. The area in the red box corresponds to the 1998 survey. The straight red line represents the approximate border between the clay and sand deposits, with the latter to the south of the line. 1) Former Patronato Panamá Viejo offices. 2) Cathedral and Bell Tower. 3) Casa Terrín. Source Patronato Panamá Viejo and Instituto Nacional Geográfico Tommy Guardia.

Patronato Panamá Viejo Excavations

The pottery sample under study comes from the Precolumbian component lying under the Plaza Mayor of Panamá Viejo that came to light thanks to the ongoing excavations. In the field seasons of 1996, 1997, 1998 and 1999, Colonial and Precolumbian remains were excavated. The relevant field reports with the information here presented are held in the Patronato Panamá Viejo archives (Patronato Panamá Viejo [PPV] 1996; 1998a; 1998b; see also Mendizábal 1999).

The excavations located an immense Precolumbian pottery deposit immersed in a sandy matrix immediately underneath the southern end of the Plaza Mayor or Main Square of the town. This deposit, a mixture of sand and earth, potentially covers the entire coastline of the site. For the purposes of this dissertation however, only the southern end of the Plaza shall be considered, an area of approximately 65m. in length by 15 m. in width.

Excavations in the Precolumbian deposits in 1998

The deposits beneath the Plaza revealed the Precolumbian phase of occupation under the core of Panamá Viejo's Colonial settlement. Of relevance to this dissertation are the excavations carried out in the ruins of a block of houses on the western front of the Plaza in 1996, the systematic survey of the Plaza itself in 1998, and the excavation of further test pits on the Precolumbian levels of the Plaza in 1999. In 1996, while digging under the floor of a Colonial period house to the west of the Plaza, a Precolumbian burial (Tumba 1) was discovered, the first evidence of Precolumbian occupation found by the Patronato excavations. But it was not until 1998 that a survey of the area presented an idea of the ample extension of the Precolumbian occupation in the site.

The aim of the 1998 survey was to explore the Plaza itself, looking for its original level and layout. The search was also dedicated to finding any flooring that may have existed, and to excavate any further Precolumbian features found. Together with Alvaro Brizuela, we dug test pits every 5 metres following a predetermined grid fixed on the Plaza. A total of 126 pits were excavated, each measuring 1 metre north-south by 0.6 m. east-west, and reaching the culturally sterile levels (PPV 1998b). The grid's point of reference is a modern geodesic marker located in the south-west corner of the modern Plaza. Each point in the grid has a north/east co-ordinate number. The 100N and 100E point, ground-zero, is located exactly 30 m. to the east and 10 m. to the south of this marker, and the whole grid is aligned with the cardinal points. So the test pit number 110N(north) 100E(east) is located exactly 30 m. to the east of the mentioned marker. The four "corners" of the survey were the following: North-west corner – pit 150N 100E; south-west corner – pit 105N 100E; north-east corner – pit 150N 160E; south-east corner – pit 110N 160E (see Fig. 5.13.). This entire grid system was replaced in 1999 when the Site General Survey devised an all-encompassing grid system for the entire site, following the same designation for

coordinates, with North and East points of reference. The 0 spot for this new alignment lies outside the site, on its south-western corner.

The survey demonstrated the lack of flooring of the original Plaza and how most of the Colonial level of occupation had been almost completely destroyed by modern activities, which ironically preserved the Precolumbian levels of occupation. The southern end of the Plaza proved to be part of the coastline of the site, so when it was originally laid down, its southern end – at least one quarter of its north-south length – lay on the sandy levels of the site's beach. The buildings erected to the south of the Plaza all had their foundations built on sand, closer to the water's edge.

Fig. 5.5. View of the park on the Plaza before its removal, taken in 1997 from the top of the Bell Tower of the Cathedral, looking west. The black line represents the approximate border between the clay and sand deposits on the Plaza. Tumba 2 was located just on the clay deposits near the white park bench, and it lay almost immediately below the concrete street, and so did the sand layers to the south of the line. The tall building on the horizon stands in the Coco del Mar neighbourhood, near the Morelos monument. Photograph by Tomás Mendizábal.

Fig. 5.6. Removal of the park on the Plaza of Panamá Viejo. Taken from the bottom of the Cathedral Bell Tower. Notice the reddish/yellowish clay under the former street, except on the southern side where the sandy deposits lay. The squares that dot the area are the 1998 survey pits. Photograph by Tomás Mendizábal.

These buildings, among them the town's prison and market, disappeared after the abandonment, and this allowed the water to return to the site. Some of the older local inhabitants have told of how they remember when at high tide the water came in as far as the middle of the Plaza. In the 1950's a military barracks was built where the Colonial prison and market had stood once again enclosing the area of the Plaza. Today the Mercado Nacional de Artesanías and the former offices of the Patronato occupy this building (see Fig. 5.3. and 5.4.). Therefore the sandy levels, once open to the sea, are now boxed in between the Plaza of Panamá Viejo and the parking lot of the modern buildings to the south. It can also be assumed that the sandy levels are the survivors of the construction of the modern buildings, which most probably destroyed any and all Precolumbian subterranean features that lay further south of the survey, although there is still hope to recover other archaeological remains from under the car park, which would have not needed deep foundations.

These sandy strata contain an immense deposit or midden with Precolumbian burials and thousands of pottery sherds and sea shells, all held in a mixture of sand and earth, a "dark sand" level, below which there is a white sand or culturally sterile level. This dark sand level and the beach it forms a part of, stretch all along the coastline from the mouth of the Juan Díaz river to the Coco del Mar neighbourhood and beyond, potentially holding an innumerable amount of Precolumbian features. Due to time constraints excavation proceeded using natural stratigraphy,

so the entire dark sand level where the Precolumbian cultural remains lay was removed as a single unit. During this season, the modern park and paved street that covered the ancient Plaza were removed leaving the Precolumbian levels exposed (see Fig. 5.5.).

The main deposit of Precolumbian materials came from the area around test pit number 110N 125E, around which we found Tumbas 3 and 4 (Fig. 5.13.). A total of 7 m^2 of area were dug with an approximate total of 2.4m^3 of excavated dark sand deposits in and around test pit 110N 125E. The area around this pit gave the most clear cut natural stratigraphy in the Precolumbian levels, the difference between the dark and white sand layers being very clear. However, there was no obvious stratigraphy within the layers themselves. This fact, plus the time limit the survey was under, made an excavation of these layers by arbitrary levels impracticable. In all 35 pits were excavated in the sandy layers. The neat differentiation between both sand layers was not completely clear in all of them, in some of the test pits the dark sand layer was not present, while in others it was thicker than its average of 40 cm. However, almost all the pits revealed Precolumbian pottery fragments, but the highest concentration of the dark sand midden lay near the area of pit 110N 125E. This is why this area was chosen to excavate in the field season of 1999.

Stratigraphy of the Plaza

Thus, the Plaza can be stratigraphically divided in two parts, the clay deposits to the north where most of the Colonial materials are found, and the sandy deposits to the south which constitute the waterfront or beach of the site, where almost all the material recovered was Precolumbian. Starting from the water line, the sandy deposits occupy approximately the first 40 m from south to north, extending the length of the site following the coastline. The sandy deposits lay to the south of the 115N line of the grid. The rest of the deposits to the north are clayey (see Fig. 5.4, 5.5 and 5.13).

Colonial and Post-Colonial Levels

The clay deposits of the Plaza to the north represent the *tierra firme* part of the site and they start roughly from 10 to 15 m to the north of the southernmost row of test pits. In this area are most of the Colonial buildings, with the remains of streets, wall and column foundations, and material deposits. The stratigraphy here has first the modern *humus* level, then a level of modern fill containing a mixture of Colonial and contemporary materials, followed by the Colonial occupation level with its different deposits, and then a sterile clay level, which is the underlying natural stratum of the site (Fig. 5.7.).

Fig. 5.7. Sterile Clay levels. It is a yellowish-ochre coloured clay, very hard and sticky, with no artefacts. Photograph by Tomás Mendizábal.

Precolumbian Levels

The sandy deposits include the southern end of the surveyed area, that is, the first 15 m from the southern limit of the survey, after which lies the interface between the sandy and clay deposits, so it may seem safe to assume that this is the end of the beach or coastline and the start of *tierra firme*. The sandy area was roughly 15 m wide by 60 m long, although it undoubtedly continues under the rest of the southern fringe of the entire site, following the coastline. The stratigraphy of the sandy deposits revealed two levels of sand, one an anthropogenic, very sandy soil, composed mainly of a mixture of sand and earth, plus the presence of human burials, countless mollusc shells, pottery fragments, and some intrusive Colonial period materials, called the "dark sand". This level is approximately 40-50 cm deep on average through its entire extension. Directly on top and in contact with the dark sand there used to be a modern concrete and cobblestone street laid down during the 1950's. Although it destroyed Colonial period features, it preserved the Precolumbian deposits below.

The second level is composed mostly of sand, with almost no soil or artefacts present in it, except for the burials, which intrude in it from the dark sand. This stratum, called "white sand", is about 1.5 to 2 m in depth, until one arrives at the *coquina* level, which is a very hard and culturally sterile cemented sand layer, where the excavation ends, and which apparently runs the length of the site (see Fig. 5.10. and also Biese 1964:12).

The burial pits descend through the dark sand and into the white sand layer, but the activity of burial itself must have taken place during or after the deposition of the dark sand layer. Some of the burials found were directly under the Plaza itself, where no later structures were built, but most were under the remains of the block of houses to the west of the Plaza. The sand levels

under the Plaza proper were not disturbed but for the top part of the dark sand, which had some Colonial materials, but as said before, most of the Colonial strata were destroyed by the modern constructions.

The stratigraphy was determined after the 1996 excavations and the 1998 Plaza survey. The materials from the 1998 and 1999 field seasons are the basis for the classifications carried out in chapters 6 and 7 of this dissertation. As the deposit is composed of a sandy matrix, it is impossible to recognise any micro-stratigraphy, so arbitrary 10 cm levels were used. It is not thought likely that this deposit, with an average thickness of 40 cm, was formed with a single event or in a short period of time. The burials and ceramics found in it possibly indicate a long period of occupation and use of this place as a burial ground and for other activities.

Formation of the Sandy Deposit

It is necessary to formulate the question of how this particular beach originated and changed through time to properly understand the depositional events in it. As there are no known geomorphologic studies for the area it is inevitable to speculate. A beach is "the site of accumulation of sediment deposited by waves and currents around a sea or lake margin" (Kearey 1996:30). Depending on several factors among which a major one is sea wave strength, a beach can either grow by the addition of sediments being laid upon it, or it can be eroded by the waves (Rapp and Hill 1998:74-81). Currently the latter process appears to be occurring, as the waves beating on the present day Panamá Viejo beach have eroded the coastline. Proof of this is that today for example, the more than half of the Convento de San Francisco lies under water during high tide. The Plaza is currently about 40 or so metres away from the coastline, a shorter distance than in colonial times. Looking at colonial era maps, the coastline of the town, roughly from the Plaza Mayor up to the Natividad Fort presented a somewhat straight line (Fig. 4.5. and 4.6.; also Mena García 1984: Fig. 6). Nowadays, the same portion of coastline is in the shape of a crescent, which seems to be expanding northwards.

The sandy matrix with the cultural remains is a mixture of sand and earth, which is very fine and has the consistency of sand, but is readily noticeable from the lower levels of "white" sand which are culturally sterile apart from the few sherds that may have drifted down. Thus the growth of the deposit was due most possibly to wind and wave action that added more sand and earth, and human action that added soil as well as cultural products. With time and human occupation the deposit grew. Any further addition or erosion of sand was barred during Colonial times when buildings were erected directly to the south of the deposit, acting as a waterfront and rendering these deposits virtually landlocked. Nevertheless in the years since the abandonment of the town in 1671, the process of erosion was reactivated as local people today have reported that they remember when the waves used to come almost all the way into the Plaza Mayor in the first half of the 20th century. The building of the barracks, now Mercado Nacional de Artesanías (National

Handicrafts Market), has stopped this erosion process again, at least in the area directly to the south of the Plaza.

Excavations at the Morelos Monument

During the field seasons of 2000, 2001, 2002, and 2003, the Patronato archaeology team detected a group of Precolumbian features underneath the Morelos monument on the south-western outskirts of Panamá Viejo (Martín 2002a, 2002b, 2003). Archaeologist Juan Martín Rincón located vestiges of two superimposed earthen floors belonging to two different residential structures, post-holes, secondary urn burials, fragmented and whole pottery vessels, and more interestingly, artefacts never before found in the site. They obtained the fragments of three bone flutes, with intricate carvings on their surfaces, several seashell necklace beads, and the only golden artefact found to date in Panamá Viejo, a pendant in the shape of a frog. More relevant to this dissertation is the discovery of many decorated pottery fragments and vessels, with plastic and painted decorations, in stark contrast to the material from the Plaza which is mostly undecorated. This material will be dealt with in detail later.

Results of 1998, 1999 and 2000 Field and Laboratory Seasons

During 1998 Plaza survey there were a total of 35 pits (1m x 0.6 m) excavated in the sandy deposits, plus the extended excavation of the pits around Tumba 3 and Tumba 4.

The survey conducted in 1999 had the purpose of collecting material for this dissertation. It followed the same systematic grid pattern used before, but on this occasion, the 7 test pits measured 1 x 1 m, and only reached a depth concurrent with the end of the dark sand layer, stopping where the midden did, a total excavated volume of $2.8m^3$. Only the upper layers of the white sand were excavated in search of any pottery fragments that due to natural causes (gravity or bioturbation) could have shifted downwards. As the Precolumbian midden found in 1998 was excavated using natural stratigraphy due to time and budget constraints, the excavation in 1999 was conducted utilising arbitrary levels of 10 cm, because there are no obvious, discernible natural or human discontinuities in the stratigraphy of the dark sand. Nevertheless, the sample from these 7 pits was limited in number, so for the purposes of this thesis, the pottery coming from the 35 pits of the 1998 survey shall also be used.

Fig. 5.8. Panamá Viejo Plaza after removal of modern features and grading of the surface. The lawn was laid down in the summer of 1998. View looking east across the Plaza Mayor, towards the Cathedral and the bell Tower. The tree in the centre stands a few metres north of the excavations. Photograph by Tomás Mendizábal.

To locate the test pits in the Plaza of Panamá Viejo, the coordinate system devised for the 1998 survey project was first used, and then transformed to comply with the new system implemented beginning in 1999, according to the Panamá Viejo Master Plan.

The pits were laid in an area known (from the 1998 season) for being particularly rich in cultural remains, in the vicinity of station 110N 125E (Tumba 3), and near the border between the sandy beach deposits in the south and the clay deposits to the north (the pits are only 5-10 metres to the south of the clay layers). The same stratigraphy as in 1998 was found in all the pits, the only change being the layers added to the Plaza after the removal in 1998 of the modern park and all modern inclusions from the Plaza. This remodelling of the Plaza culminated in an undisturbed appearance of the area, trying to emulate the "original" colonial look (Fig. 5.8.). It was finished off with a grass covering, to render it available to the numerous tourists that visit the site every year.

Fig. 5.9. Excavation in the Plaza for this dissertation in the summer of 1999. Yazmín Mojica (pictured) helped with the excavation process. Notice traffic in the background running through the site. Photograph by Tomás Mendizábal.

During excavation, natural stratigraphic levels were followed. Within each natural level, 10 centimetre arbitrary levels were used. Thus, the stratigraphy of the area stands as follows (see Fig. 5.10.):

Level 1: grass layer, average depth of 3-4 cm, laid down in 1998.

Level 2: sand layer, average depth of 3-4 cm, laid down in 1998 to facilitate drainage of the Plaza.

Level 3: fill composed of dark brown clay, mixed with Precolumbian, Colonial and Contemporary materials. It presents an average thickness of 10-15 cm, and was also laid down as fill in 1998.

The dark sand, with an average depth of 30-40 cm, deposited by Precolumbian cultural activities, was further divided into 10 centimetre levels.

Level 4: dark sand layer, 0-10 cm level.

Level 5: generally the 10-20 cm level of the dark sand layer.

Level 6: generally the 20-30 cm level of the dark sand layer.

Level 7: generally the 30-40 cm level of the dark sand layer.

Level 8: it is at this depth that usually the next natural stratigraphic level appears, the white sand, a culturally sterile level. In it, ceramic materials are found which have filtered down from the upper darker levels, through natural actions (gravity, or bioturbation). It is also intruded by the burials from the dark sand.

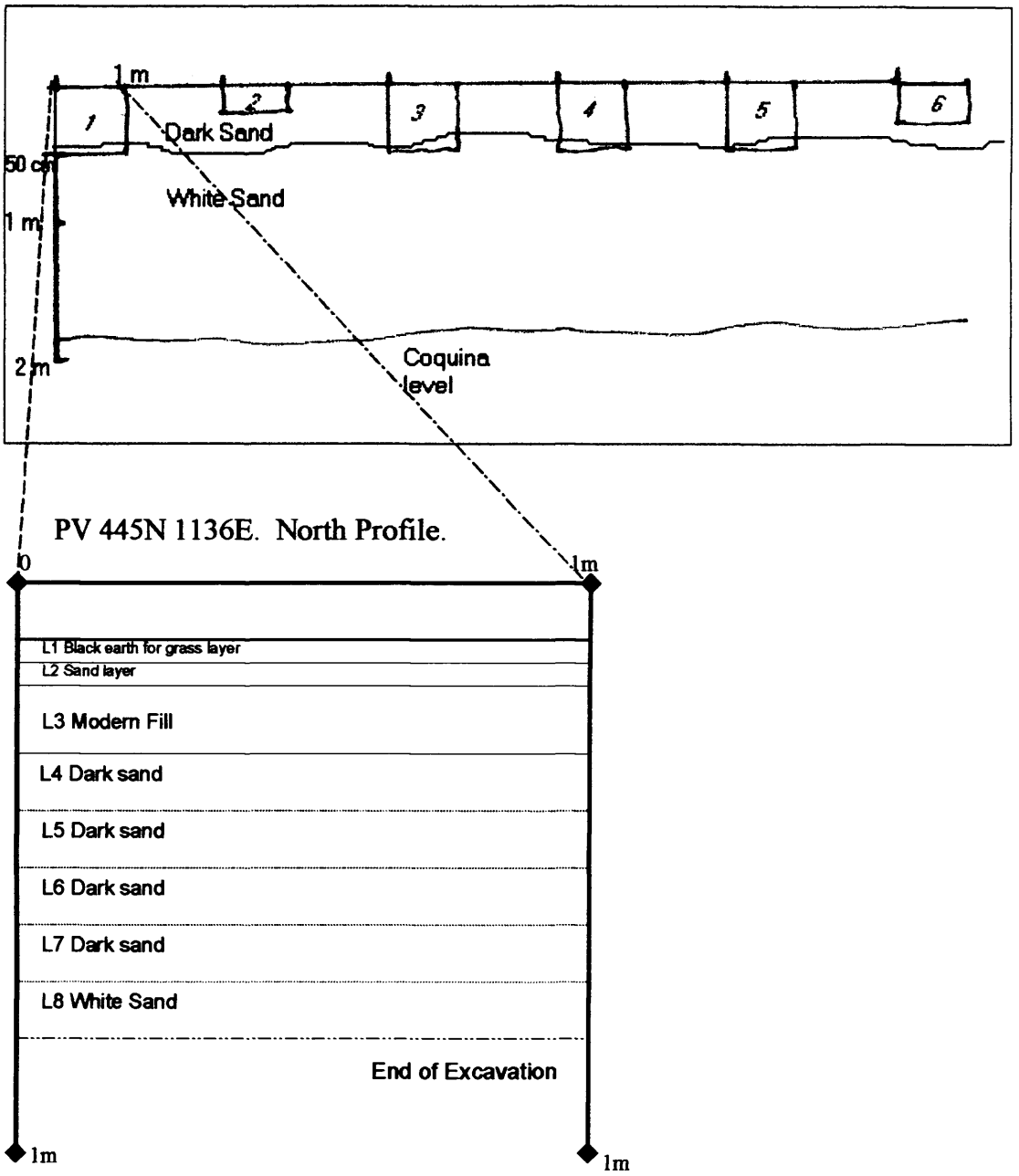

Fig. 5.10. North Profile of excavation in the Plaza (above) and a schematic representation of the stratigraphy of the sandy levels (below). The horizontal and vertical scales above are different for reasons of space and clarity. 1 = 445N 1136E; 2 = 445N 1138.5E; 3 = 445N 1141E; 4 = 445N 1143.5E; 5 = 444N 1146E; 6 = 445N 1148.5E; pit 446N 1148.5E is "behind" 445N 1148.5E.

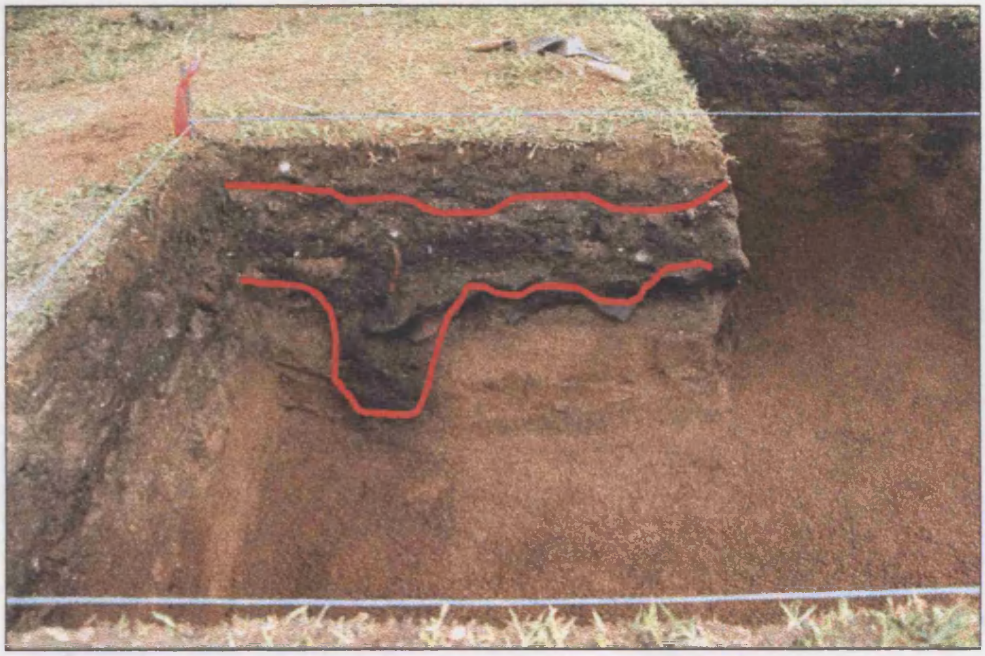

Fig. 5.11. PV 445N 1147.5E North profile. The red lines delimit the dark sand level. The protuberance could be the imprint of a posthole. Photograph by Tomás Mendizábal.

In two of the test pits it was impossible or not advisable to pursue the excavation until the end of the dark sand layer, due to the finding of more complex archaeological features nearby, that could not be properly excavated due to time constraints. Pits 445N 1148.5E and 446N 1148.5E, contiguous to Tumba 10 (the individual lay in pit 445N 1149.5E) excavation stopped at level 6. After consulting with Dr. Beatriz Rovira, it was decided that Alvaro Brizuela should continue with the excavation of this burial due to its unique associated ceramic assemblage, described below. In pit 445N 1138.5E excavation stopped at level 6 too after finding two ceramic pots.

A priori, the pottery seemed to be rather homogenous, thousands of sherds from a shallow deposit that seemed rather unpromising for a "useful" chronological study (Fig. 5.12.). I returned to Panamá Viejo in the summer of 2000 to conduct the classification of the materials recovered in the excavations of 1999, using the taxonomical and modal methods of analysis. The results of both will be presented in chapters 6, 7 and 8.

Fig. 5.12. Sherds from the 1999 field season laid out in the Patronato Panamá Viejo archaeology laboratory. Photograph by Tomás Mendizábal.

The following tables enumerate the sherds recovered from both field seasons. All the material from the 1999 excavations was accounted for and checked by hand by the author. However, the 1998 material was not entirely available for reanalysis. Out of the 9166 sherds originally counted in the original field and laboratory reports in 1998, only 6566 were manually counted and analysed for this dissertation, because some of the material was misplaced – it is not lost, it was just difficult to locate in time – while in the storage facilities, and during the moving procedure of the Patronato to its new offices.

Absolute Numbers

Level	115N 100E	115N 105E	115N 110E	115N 115E	115N 120E	115N 125E	115N 130E	115N 135E	115N 140E	115N 145E	115N 150E	115N 155E	115N 160E	Total
modern			67			!					35	1		103
modern		9	!		7	259					43	!	78	396
sand 1	15	!	122	551	360	306	340	Tumba 2		2	109	410	258	2473
sand 2	84	2	19	10		53	53				715	38	99	1073
sand 3	2					43								45
arcilla														0
Total	**101**	**11**	**208**	**561**	**367**	**661**	**393**	**0**	**0**	**2**	**902**	**449**	**435**	**4090**

Level	110N 100E	110N 105E	110N 110E	110N 115E	110N 120E	110N 125E	110N 130E	110N 135E	110N 140E	110N 145E	110N 150E	110N 155E	110N 160E	Total
modern											10	0		10
modern	!										14	1		15
modern	1	13		26							23	4	16	83
sand 1	23	10	47	193	172	2308	105	29	191		212	26	16	3332
sand 2		0	33	13	47	268	34		26		11	2	241	675
sand 3														0
coquina														0
Total	**24**	**23**	**80**	**232**	**219**	**2576**	**139**	**29**	**217**	**0**	**270**	**33**	**273**	**4115**

Level	105N 100E	105N 105E	105N 110E	105N 115E	105N 120E	105N 125E	105N 130E	105N 135E	105N 140E	105N 145E	105N 150E	105N 155E	105N 160E	Total
modern	8													8
modern	2													2
modern	1													1
modern	9	!	0				15							24
sand 1	40	0	30	1	289	!	122	101	151					734
sand 2	8	4		7		70	50	44	!					183
sand 3								9						9
coquina														0
Total	**68**	**4**	**30**	**8**	**289**	**70**	**187**	**154**	**151**	**0**	**0**	**0**	**0**	**961**
													Grand Total	**9166**

Table. 5.1. 1998 Plaza Survey, absolute sherd counts. The blue line denotes the first "dark sand" stratigraphic level, while the levels above, termed "modern", are those deposited by activities during the Colonial period or later, but that still contained Precolumbian pottery. This excavation did not use arbitrary 10 cm levels, rather natural levels were used based on the changing coloration and consistency of the sandy matrix. Numbers in red and red exclamation marks indicate material that was counted in the report sheets in 1998 but not counted by the author in 2002. The yellow fill indicates that not all the bags with material from that provenance were checked by the author.

Absolute Number of Sherds

	100E	105E	110E	115E	120E	125E	130E	135E	140E	145E	150E	155E	160E
115N	101	11	208	561	367	661	393	0	0	2	902	449	435
110N	24	23	80	232	219	2576	139	29	217	0	270	33	273
105N	68	4	30	8	289	70	187	154	151	0	0	0	0

Table 5.2. 1998 Plaza Survey. Total number of sherds in every pit.

Total sherds	9166
Total area excavated in m^2	21
Total area excavated in m^3	30.05
Total density of sherds/m^3	305.025

Table 5.3. 1998 Survey. Sherd Totals and Total density of pits excavated in 1998 season.

1998 Coordinates	1999 Coordinates	Findings	Depth Reached	Vol. Excavated
Excavated by Brizuela				
107.5N 126.5E	445N 1147.5E	midden	Level 6	0.3 m^3
107.5N 128.5E	445N 1149.5E	Tumba 10	Level 6	0.3 m^3
Excavated by Mendizábal				
108.5N 127.5E	446N 1148.5E	midden	Level 6	0.3 m^3
107.5N 127.5E	445N 1148.5E	midden, vessels	Level 6	0.3 m^3
106.5N 125E	444N 1146E	midden	Level 8	0.5 m^3
107.5N 122.5E	445N 1143.5E	midden	Level 8	0.5 m^3
107.5N 120E	445N 1141E	midden	Level 8	0.5 m^3
107.5N 117.5E	445N 1138.5E	midden, vessel	Level 5	0.2 m^3
107.5N 115E	445N 1136E	midden	Level 8	0.5 m^3

Table 5.4. Test pit coordinates in Plaza of Panamá Viejo.

Provenance	Sherds	Weight in grams	Density Sherd/m^3	Weight/sherd
445N 1136E L4	106	756	151.43	7.132
445N 1136E L5	109	601	155.71	5.514
445N 1136E L6	15	89.5	25.00	5.967
445N 1136E L7	11	63.5	27.50	5.773
445N 1136E L8	4	21	10.00	5.250
445N 1138.5E L4	109	1505	155.71	13.807
445N 1138.5E L5	220	2075	314.29	9.432
445N 1141E L4	202	2059	288.57	10.193
445N 1141E L5	126	1645	180.00	13.056
445N 1141E L6	43	391.5	71.67	9.105
445N 1141E L7	11	91	27.50	8.273
445N 1141E L8	5	22	12.50	4.400
445N 1143.5E L4	158	2366	225.71	14.975
445N 1143.5E L5	61	575	87.14	9.426
445N 1143.5E L6	38	335	63.33	8.816
445N 1143.5E L7	22	267	55.00	12.136
445N 1143.5E L8	8	26	20.00	3.250
444N 1146E L4	154	1719	220.00	11.162
444N 1146E L5	158	1338	225.71	8.468
444N 1146E L6	30	425	50.00	14.167
444N 1146E L7	26	135	65.00	5.192
444N 1146E L8	7	25	17.50	3.571
445N 1148.5E L4	285	2639	407.14	9.260
445N 1148.5E L5	48	429	68.57	8.938
445N 1148.5E L6	46	708	76.67	15.391
446N 1148.5E L4	174	1814	248.57	10.425
446N 1148.5E L5	152	2354	217.14	15.487
446N 1148.5E L6	25	200	41.67	8.000
TOTAL	2353	24674.5		

Table 5.5. 1999 survey. List of sherds with their provenance, weight by unit, density and average sherd weight.

Total Sherds	2354
Total Area excavated in m^2	7
Total Volume excavated in m^3	2.8
Total Density of sherds/m^3	840.71

Table 5.6. 1999 Survey. Sherd Totals and Total density of pits excavated in 1999 season.

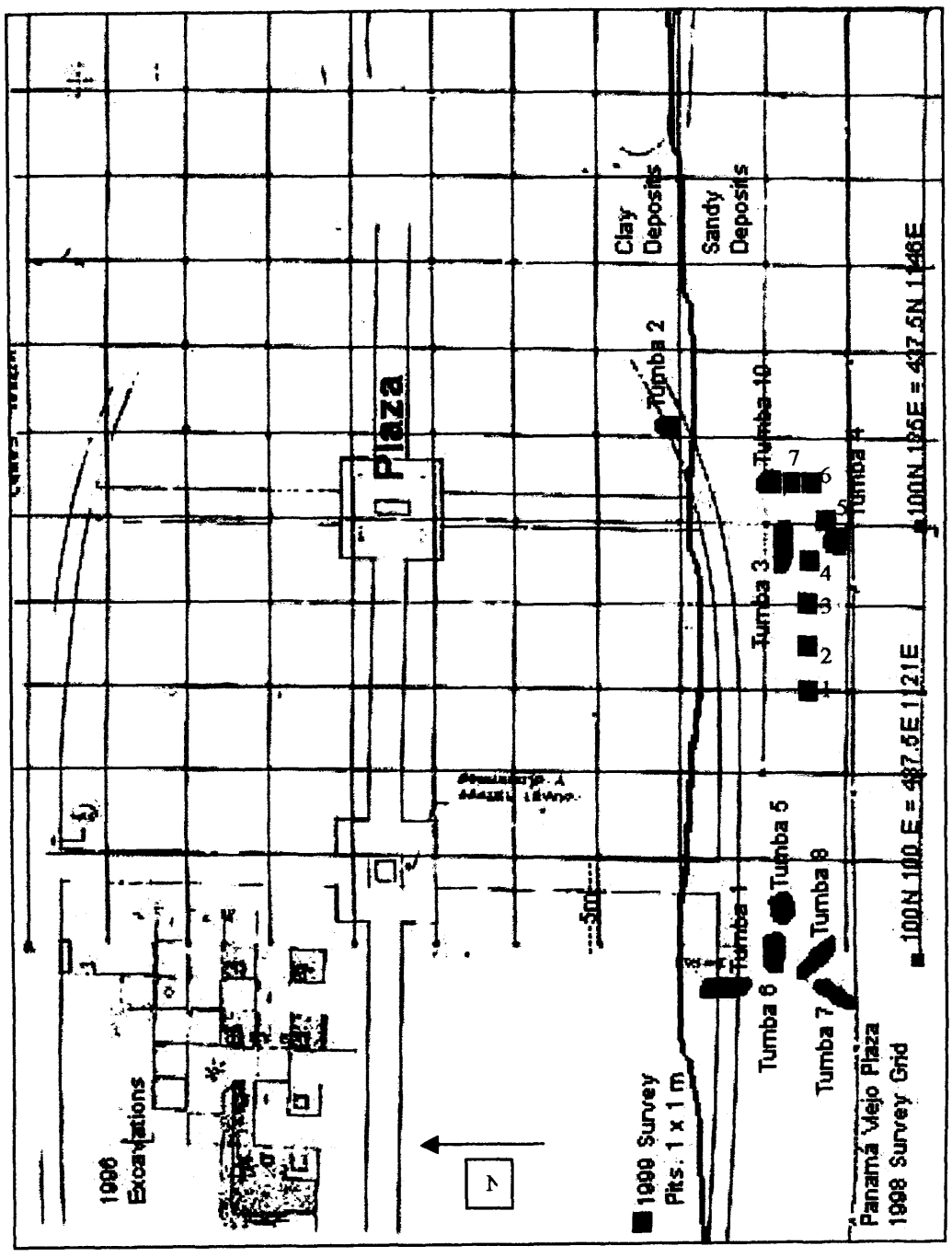

Fig. 5.13. Map of Excavations in the Plaza of Panamá Viejo. The grid corresponds to the 1998 survey, with pits distanced 5 m from each other. The southernmost line of the grid sits on the border between the Plaza and the parking lot for the Patronato offices. The easternmost line of the grid sits on the border between the Plaza and the ruins of the Cathedral. The burials are not drawn to scale. The rectangular structures seen below the grid are the park pavements and monuments, all constructed during the 1950's, removed in 1998. 1 = 445N 1136E; 2 = 445N 1138.5E; 3 = 445N 1141E; 4 = 445N 1143.5E; 5 = 444N 1146E; 6 = 445N 1148.5E; 7 = 446N 1148.5E.

Precolumbian Burials in the Plaza Mayor

An important component of the site are the burials and the artefacts accompanying them, thus a detailed description is hereby included. The pottery offerings found with them share many similarities with the rest of the fragmented pottery found all over the midden. However, these burials intrude in the pottery deposits so they must be either contemporary with or post-date the "dark sand" levels.

Tumba 1

Tumba 1 was found in unit C19 of the 1996 excavations. Its equivalent for the 1999 survey would be unit 447.5N 1120E, and was approximately 1.2 m under the modern surface, and 0.8 m beneath the brick and *argamasa* floor of a Colonial period house. It is a primary Precolumbian burial, consisting of the almost complete skeleton of a woman (forensic analysis gave an age of approximately 40 years at death) wearing a seashell (*Spondylus*) necklace, accompanied by a burial offering of ceramic monochrome and bichrome pots, and the skulls of 9 individuals, over whom her skeleton was placed. Some of the skulls are missing teeth, yet the alveoli are not healed, most likely indicating post-mortem removal. They also appear not belong to victims sacrificed immediately before the burial, as those skulls usually present the last two or three cervical vertebrae, while these do not.

Fig. 5.14. Tumba 1. Notice disturbance of right arm, below which a "tenth" skull would have been placed. The two long bones to the right of the photograph presumably belong to another burial. Photograph by Tomás Mendizábal.

Directly over the cranium and thorax were placed five ceramic pots. In stratigraphic descending order, Vessel 5 is in the shape of a dumbbell, with black and white decorations over a red slipped background, two plates with an elongated pedestal – vessels 1 and 3 – , which also bore black and white decorations (geometric patters of triangles and lines similar to Mendoza Group pottery in the Central Region) over the red slip. And two smoked globular containers – vessels 2 and 4 – (*ollas*) that contained, hundreds of small fish bones[25] mixed with the carbonised remains of what is thought to be corn (*Zea mays*), and a small portion of a corn cob (*tuza*). They also contained plant seeds, other animal bones, carbon fragments, and the remains of a necklace made of the bones of a single smoky bullfrog (*Leptodactylus pentadactylus*). The vegetable remains in Vessel 2 were sent for C14 dating, as well as the dentine in molars from Individuals 1, 2, 9 and 10 (see Table 5.7. for dates and calibration). Vessel 2 also contained the fragmented remains of miniature pottery vessels (Jiménez 1996 in PPV 1996).

Other broken ceramic vessels were also found accompanying the body, such as the fragmentary remains of two pottery urns, placed one near the skull and the other at her feet, and two miniature pots, placed directly over the hipbone. Also the beak of a marine bird, the Piquero Patiazul (*Sula nebouxii)* common in the Pearl Islands was found as part of the burial.

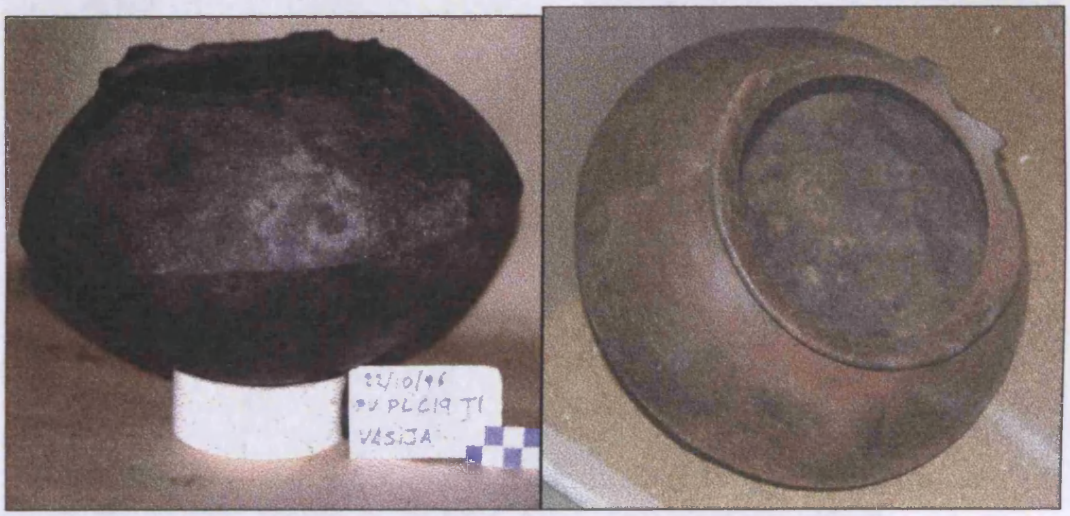

Fig. 5.15. Vessel 4. Before (left) and after (right) cleaning, conservation and restoration. Photographs by Tomás Mendizábal.

[25] These were identified in a separate report by Smithsonian biologist Máximo Jiménez (1996), working with Richard Cooke; this study revealed that most of the fish were very small anchovies, weighing only a few grams, and belong to species that live in shallow waters near the shore in mangrove environments.

Fig. 5.16. Vessel 3, profile, before cleaning and conservation treatment. Photograph by Tomás Mendizábal.

Fig. 5.17. Vessel 2 (left) and vessel 5 (right). Photographs by Tomás Mendizábal.

Fig. 5.18. Part of pottery offering for Tumba 1, now in exhibition at the site museum. Vessels 2 (left) and 3 (right). See the miniature pottery offerings inside vessel 2. The black geometric designs in the inner rim of Vessel 3 are outlined in white paint. Photograph by Tomás Mendizábal.

Fig. 5.19. Jar or urn placed at the feet of Tumba 1. Mouth diameter is 10 cm (left). Detail of painted decoration on Vessel 1, black designs outlined in white paint (right). Photographs by Tomás Mendizábal.

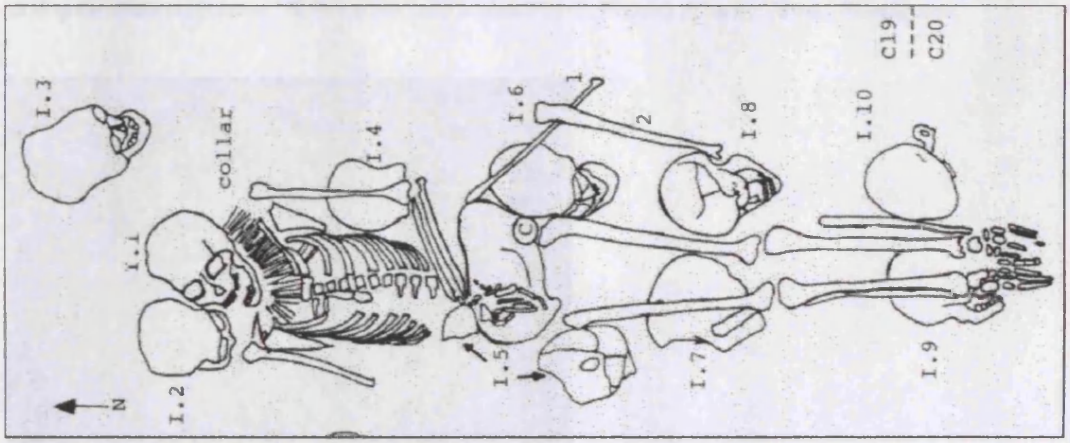

Fig. 5.20. Plan of Tumba 1 without pottery offering. The skull of individual 1, the woman, lay approximately 1 m below the modern surface. The I before the numbers stands for "individual". C19 and C20 are the grid coordinates from the 1996 excavation. Notice Individual 9 under right inferior extremity. Source Patronato Panamá Viejo 1996 Fig. 14.

Tumba 2

It is a rather large funerary urn, at least 70 centimetres in diameter, located at grid coordinates 115N 135E, laying in the clay deposits immediately north of the sandy levels. As cover it had a polychrome chalice-shaped plate, whose pedestal had been cut out, dated by Jacinto Almendra on stylistic grounds to the Mendoza Group of the El Hatillo Style of the Central Region pottery (AD 1300-1520), with a black on white decoration over a red background, very similar to those reported by Biese (Fig. 3.17.). Inside were the osseous remains of several adults and some adolescents or children, indicated by milk teeth found; a dark stain was found covering the bottom and the bones near it, that Beatriz Rovira thinks may be the remains of the maize beverage called *chicha* (personal communication). This burial lay immediately below the concrete street,

confirming that it also destroyed any remaining Colonial level of occupation over the urn in this area of the Plaza. An absolute date was obtained from the dentine of a molar in the second level of excavation within the urn itself (see Table 5.7).

Fig. 5.21. Tumba 2, before excavation and restoration; on the surface, three adult skulls (left). Tumba 2 during excavation process. Notice adult limb bones (right). Photographs by Tomás Mendizábal.

Fig. 5.22. Tumba 2 after restoration, now on display at the site museum. Below is the urn cover seen in Fig. 3.17. Photograph by Tomás Mendizábal.

Tumba 3

Located at grid co-ordinates 110N 125E, it is a primary burial consisting of the skeleton of an adult male, by whose disposition it would seem as if it had been tightly bound for burial. It presented an offering consisting of one small globular jar under the feet, another under the right side of the torso and two more under and above the skull. The latter two were apparently ritually killed, for they were smashed in pieces. The breakage is likely not due to weight compaction

from the earth above, as the pot under the inferior extremities survived unscathed; the pieces appear to have spread following the direction in which the pots were thrown. The other pots contained almost the same offering as the ones for Tumba 1, which were hundreds of small fish vertebrae, although no carbonised remains were found. It is at a depth of approximately 30-40 cm under the present surface, at 5.20 m above the sea level. An AMS date was obtained from the dentine of a molar of the individual (see Table 5.7).

Fig. 5.23. Tumba 3. Notice the difference between the anthropogenic dark sand and the lower white sand. The pots over the invidivual's skull seem to have been thrown and intentionally "killed". Photograph by Tomás Mendizábal.

Fig. 5.24. Funerary offering for Tumba 3. The red vessels were smashed over the skull and have been restored. The darker, smoked vessel in the background lay untouched beneath the feet. Photograph by Tomás Mendizábal.

Tumba 4

It was located 2 metres south of grid coordinates 110N 125E. This is another monochrome burial urn, found in the dark sand layer. It is very similar to, but smaller than, the Tumba 2 urn and

contained charred human bones surrounding a core of un-burnt human bones (PPV 1998b). The burial lay immediately under the modern street, being miraculously preserved as well. In the surrounding dark sand midden and very near to it (40 cm approx.), were recovered two pedestalled "incense burners" or *escudillas*, topside under, which are shallow plates standing on elongated pedestals. They show geometric designs achieved in white paint over a burnished background.

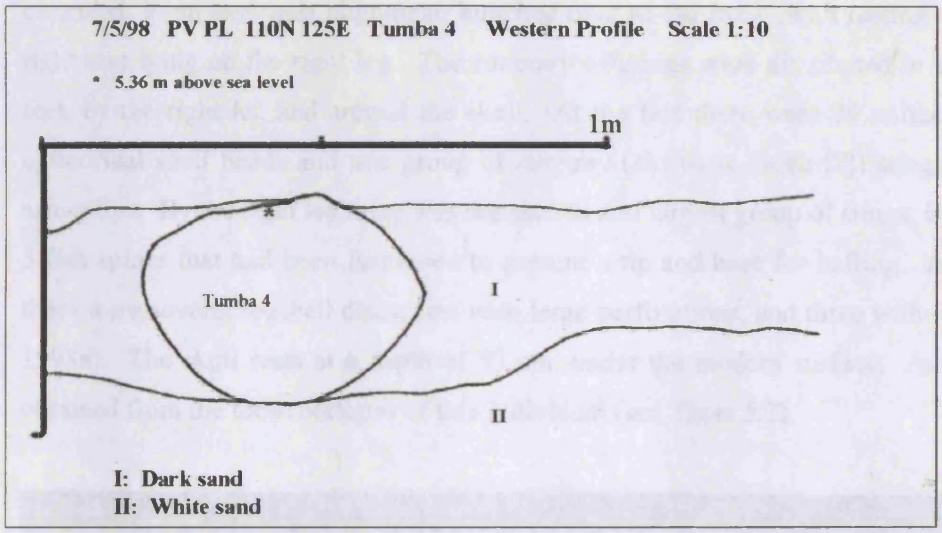

Fig. 5.25. Stratigraphic profile of Tumba 4. Immediately above it lay the concrete street seen in fig. 5.5, which had an average depth of 30cm composed of concrete and rock, with an asphalt underlay. Source Patronato Panamá Viejo 1998b Fig. 6.

Fig. 5.26. Unslipped escudilla found in the vicinity of Tumba 4. Notice the "greek keys" motif achieved with white paint on the rim, and the fire clouds over the surface. Photograph by Tomás Mendizábal.

Tumba 5

Found in unit A22, though some parts of it were found in units A21, B22 and B21. It probably consisted of a burial urn, of only fragments were found, for it was severely disturbed by Precolumbian and/or Colonial activities. It was found in the dark sand layer at a depth of

approximately 30-40 centimetres under the modern surface. Thirty centimetres to the north were found two small dark brown ceramic vessels one of which contained fish vertebrae and bones.

Tumba 6

Found between units D21 and D22, this burial consists of the body of an individual of indeterminate sex, of adolescent age, placed in a sitting position. The body rests with its legs extended, in an east-west alignment, hunched over to the front, skull resting on the left arm, the right arm lying on the right leg. The funerary offerings were distributed in three points, by the feet, by the right leg and around the skull. At the feet there were 29 unifacial flint blades, 74 cylindrical shell beads and one group of stingray (*Dasyatis longus*[?]) stings, probably used as arrow tips. By the right leg there was the second and largest group of stings, in which were found 3 fish spines that had been fashioned to present a tip and base for hafting. Around the cranium there were several seashell discs, two with large perforations, and three with small orifices (PPV 1998a). The skull rests at a depth of 53 cm. under the modern surface. An absolute date was obtained from the tooth collagen of this individual (see Table 5.7).

Fig. 5.27. Tumba 6. Notice stingray spines by right arm and flint spearheads by the feet. Photograph by Alvaro Brizuela.

Tumba 7

It was found in coordinates C23, and it is a primary burial consisting of the body of an adult of undetermined sex, in an elongated position, face up, next to whom was placed a bundle of bones. They were found at a very shallow depth, in the dark sand layer.

Fig. 5.28. Tumba 7. See secondary package burial by the main individual's left arm. Photograph by Alvaro Brizuela.

Tumba 8

Located in grid B22, it is a single primary burial of an adult individual, of undetermined sex, in an extended position, face up. It is lying in a northwest to southeast position, with the skull pointing northwest. It had no burial accompaniment except for a small jumble of juvenile bones found a few centimetres away from its left knee.

Fig. 5.29. Tumba 8. Photograph by Alvaro Brizuela.

Tumba 9

The team was not able to excavate this burial, for lack of time and space in the laboratories to handle it. It was found under the Plaza in test pit 105N 115E, a few centimetres under the surface.

Tumba 10

During the 1999 field season, another burial was found at coordinates 445N 1149.5E. It is the body of a single individual, laid on its back. By the compressed position of the bones, especially the skull and shoulder bones, it is thought the person may have also been wrapped. Immediately to the west of his skull there was a stream of complete and fragmented pottery pieces, of which four were complete.

Vasija (vessel) 1: in the shape of a pumpkin, it is a red slipped modelled ware (red ware? From Cooke 1973); it contained nothing except a few fish vertebrae, most probably coming from the surrounding sand. It looks exactly like one of the pots recovered by the Reichel-Dolmatoffs at Cupica, classified as Carmelita Fina Type (Fig. 5.32. from Cooke 1998a: Fig 8.3 g). Another identical vessel is reported by Biese (1964: Plate 10a) and another by De la Guardia at Martinambo (1971 Fig. 4).

Vasija 2: a very small red *olla*, contained a food offering consisting of closed clam shells, which is an intentional trait (Fig. 3.14., also in Biese 1964: Fig. 9 a, b; also found by Torres de Araúz in Chepo 1971b:photograph 5 and 8). Other vessels were found with open clams near the foundations of the Cabildo.

Vasija 3: a larger red modelled ware, with 4 pressed out lumps that function as supports.

Vasija 4: a small pedestalled container. It presents a smoked finish, with incised geometric designs and appliquéd zoomorphic decorations, giving it the shape of a turtle or perhaps a *cacicón* (king vulture). It most likely belongs to the Votive Ware described first by Biese in 1964, supposedly dating to AD 900-1500.

Vasija 5: it is a broken pedestalled *escudilla*. It is unslipped on its outer surface, but has red slip on the inner surface.

Vasija 6: it is another very small *olla*, very similar to Vasija 2. It contained open clam shells.

Fig. 5.30. Tumba 10. The individual seems to have been wrapped for burial. Photograph by Alvaro Brizuela.

Fig. 5.31. Pottery offering for Tumba 10 in situ. Photograph by Tomás Mendizábal.

Fig. 5.32. Tumba 10. Vasijas 1 (left) and 3 (right). Vasija 1 is identical to that found by Reichel-Dolmatoff in Cupica, Carmelita Fina Type (see Fig. 5.35), and by De la Guardia at Martinambo site (1971). Photographs by Tomás Mendizábal.

Fig. 5.33. Tumba 10. Vasija 2 (left) and Vasija 6 (right). Identical to Biese's Red Ware vessels. Photographs by Tomás Mendizábal.

Fig. 5.34. Tumba 10 Vasija 4. Votive Ware. In situ (above) and after cleaning (below). Photographs by Tomás Mendizábal.

Fig. 5.35. Carmelita Fina vessel from Cupica, red slipped, height 11 cm, width 15.4 cm Compare with Vasija 1 in Fig. 5.32. Source Cooke 1998a Fig. 8.3. g.

Absolute Dates

There are 16 absolute dates obtained from Panamá Viejo (see Table 5.7 and 5.8.). As some of them lay very close in time, they were tested for statistical similarities using the Calib 4.3 program, and were joined into groups that showed a statistical similarity at the 95% level. These groups were then averaged and calibrated, as shown in Table 5.8.

Group 1 is the date from Individual 9, beneath the right foot of Individual 1 at Tumba 1, and is the earliest date. Group 2 dates come from the Plaza midden and burials, and the Morelos Precolumbian habitation site in the southwest corner of the site, indicating contemporaneity between both occupations. Two dates from Group 2, Beta-153195 and 153196 come from charcoal in pottery sherds from pits 445N 1136E level 5 and 445N 1141E level 4 respectively, which would then locate the deposition of at least level 5 by around AD 980 – 1020 (calibrated average of dates in Group 2, as seen in Table 5.8.). Group 3 dates also come from the Plaza midden, but at a slightly later date, and include the principal individual in Tumba 1 as well as Individual 2 and other burials and features in the Plaza, as well as a sherd from pit 445N 1141E level 4. Group 4 includes the single date from Individual 10 in Tumba 1, at only a slightly later time than the average for Group 2. The gap between dates probably does not indicate interruptions in occupation or use of the site, an issue discussed later.

The pottery that used in the following chapters to build the different histories of Panamá Viejo falls within the date ranges of Groups 2, 3 and possibly 4. Activities dated by Group 5, though having a calibrated range from the late 15th to the early 17th centuries, must be immediately prior to First Contact with the Spanish at Panamá Viejo (c.a. 1515), for the indigenous occupation at the site, or at least surely their burial practices, ceased as soon as the colonisers moved in. Thus, the formation of the main deposit of pottery in the area of the beach corresponding to the Colonial Plaza Mayor appears to remain around the range of 1000-1300 AD.

Lab.	Code	Provenance	Material	Date BP	StD +/-	Cal AD 2 Sigma	Group	Program	By
Teledyne	I-19,066	Tumba 1 Vessel 2	charcoal	320	70	1440 - 1670	5	Calib 4.3	PPV
Beta	160223	Tumba6	tooth collagen	480	40	1410 - 1460	5	Intcal98	RC
Beta		Tumba 1 Ind. 10	tooth collagen	590	40	1300 - 1420	4	Calib 4.3	RC
Beta	160239	Tumba 1 Ind. 1	tooth collagen	740	40	1230 - 1300	3	Intcal98	RC
Beta	153197	445N 1141E L4	charcoal	840	40	1060 - 1080 and 1150 1270	3	Intcal98	TM
Teledyne	I-19,000	115N 125E III	charcoal	915	115	890 - 1290	2	Calib 4.3	PPV
Beta	154441	220N 330E C46	charred material	930	70	990 - 1260	2	Intcal98	PPV
Beta		Tumba 1 Ind. 2	tooth collagen	940	40	1020 - 1210	2	Calib 4.3	RC
Beta	153195	445N 1136E L5	charcoal	990	40	990 - 1160	2	Intcal98	TM
Beta	153196	445N 1141E L4	charcoal	1020	40	970 - 1040	2	Intcal98	TM
Beta	153198	Tumba 3	tooth collagen	1020	40	970 - 1040	2	Intcal98	TM
Beta	160241	Tumba 2 level 2	tooth collagen	1060	40	900 - 1030	2	Intcal98	RC
Teledyne	I-19,065	Tumba 7	tooth collagen	1080	120	680 - 1220	2	Calib 4.3	PPV
Beta	160242	220N330E C4	tooth collagen	1090	40	880 - 1020	2	Intcal98	RC
Teledyne	I-18,999	115N 125E III	shell	1200	105	1040 - 1420 (marine)	2	Calib 4.3	PPV
Beta	160240	Tumba 1 Ind. 9	tooth collagen	1470	40	530 - 650	1	Intcal98	RC

Table 5.7. Absolute Dates. All dates are AMS standard delivery, except B-154441, which is Radiometric Standard delivery. PPV = Patronato Panamá Viejo; RC = Richard Cooke; TM = Tomás Mendizábal. The Group Column represents dates that were proven to be statistically the same using the Test feature of the Calib 4 program, with the group number in chronological order from earliest to latest. The dates from Teledyne Labs have the coordinates of the Plaza survey of 1998. Dates B-154441 and B-160242 come from the Morelos Precolumbian site and the rest from the Plaza.

Group	Date BP	StD +/-	Cal AD 2 Sigma	Program
1	1470	40	530 - 650	Calib 4.3
2	1030	20	980 - 1020	Calib 4.3
3	790	30	1190 - 1280	Calib 4.3
4	590	40	1300 - 1420	Calib 4.3
5	440	40	1420 - 1610	Calib 4.3

Table 5.8. Averages of date Groups from Table 5.7., from earliest to latest. Groups 1 and 4 only had one date and no average was taken. The pottery from the Plaza midden, and used in the following chapters falls in Groups 2 and 3. The statistical similarities and averages of the groups were calculated with Calib 4.3.

Summary

The stratigraphical deposits of the Plaza have much information yet to offer. Nevertheless, because of the disturbances the Plaza has suffered since Contact times, it is impossible to know where the terminal position of the Precolumbian deposits lay. It is most likely that these upper levels were completely erased by the Colonial Plaza. The Spanish inhabitants must have been literally, inadvertently walking on the Precolumbian midden and cemetery.

However, precisely because of the flatness of the terrain and the relatively little space between test pits in the 1999 survey, it was decided to "collapse or merge" them all into a single table for chronological purposes. "The chronological implications of each cut can be understood only through an analysis which took into account the unique conditions under which midden was deposited at that particular point.... I could not understand the collective implications of the several stratigraphic cuts until I understood the unique depositional history of each cut individually" (Lathrap 1962:37). It is very likely that the depositional history of these test pits is very similar, so they can be safely merged as will be seen in the next chapter.

The Patronato Panamá Viejo has opened a new era of investigations at the site. Even though the main emphasis still lies on the Colonial period remains and their powerful and influential imagery on the modern Panamanian psyche, the acceptance of the Precolumbian component of the site is being realised through the discovery of more Prehistoric remains and their exhibition in the site museum.

The Patronato is also funding an education campaign for the general public, and is opening the site to scientific symposia as well as for field schools for students of several fields. An on site museum already exists, along with archaeology and conservation laboratories where all the finds are taken and analysed. A custom-built visitor centre has been recently built to house the laboratories, storage areas, offices and museum. Panamá Viejo's future looks bright.

What follows is the analysis of the material. First a taxonomical classification and its temporal construction, followed by a modal classification and its chronology. The different results of each will be compared and discussed in chapters 8 and 9.

Chapter 6
Taxonomical Analysis of Panamá Viejo Pottery

Introduction

This chapter deals with the taxonomical analysis of the ceramics recovered at Panamá Viejo (see Gifford 1976; Sabloff and Smith 1969). The construction of this classification has endeavoured to follow the methods described not only by ceramic theorists in the literature of neighbouring areas – Mesoamerica and Northern Colombia – but also the procedures followed in classifications already built for the Eastern Region of Panamá, leaning more heavily on the latter.

Studying the classifications carried out by the authors outlined in chapter 3, it is possible to discern a distinct taxonomical method of classifying pottery (among many see Linné 1929; Stirling and Stirling 1964; Biese 1964; Cooke 1973; Drolet 1980). Even if the terms or concepts for type, variety and other units of integration had not been fully worked out when the earliest excavations took place, basically the same method was being followed. As the great majority of pottery in the Eastern Region is undecorated, to build the first hierarchical level in the classification most of these authors generally start off with paste characteristics, including colour, temper and hardness. Immediately beneath this level comes surface treatment, dealing with whether there is any smudging, painting, slipping, plastic decoration or any of the countless treatments that can be effected on the surface of a ceramic vessel. A third and generally final step usually consisted of morphological (bowls, shallow bowls, plates, urns, etc.) and functional categories (cooking, serving, ritual, funerary, etc.). This is the level of the taxonomy where classification generally stops, and the segregated batches become types and varieties. They then seek out the temporal and spatial relations the ceramic assemblage might show, within and outside itself.

The order just exposed was not the only one used. The different levels of segregation of pottery fragments are interchangeable and generally follow the interest of the first analyst to work in the region. What "usually" happens is that subsequent analyses follow whatever method the first analyst used, so that it is possible to integrate material analysed later in broader scale studies. The word usually must be stressed, because more often than not, ceramic analyses in the Eastern Region are so few and far between, that the great spans of time that separate them induce the new ceramist to develop a whole new classification. The change is especially dramatic whenever a strikingly decorated pottery is found, for then the entire hierarchy above described is changed, giving prevalence in the first tier of segregation to the surface decoration attributes of painted or plastic decoration. For example, Linné, the first to research Eastern Region pottery, made preliminary and basic classifications according first to surface decoration, painted or plastic (1929:78). Biese, 35 years later, used both surface decoration and paste composition as a first classifying level (1964:45). Stirling and Stirling used first the presence or absence of slip and

then vessel form. The colour of their Buff Ware was produced by the paste composition as it was an unslipped ware (1964:306-7), an especially frequent condition of Eastern Region pottery: the lack of surface decoration of the vessels leaves the paste exposed, thus whatever colour the exterior surface of the paste acquired after firing remains the colour of the pots, which is the case of Panamá Viejo. Cooke in 1973 used surface decoration and also paste composition attributes for segregation (1973:381-4).

Panamá Viejo Taxonomical Classification

The sequence created for the taxonomical analysis follows the one outlined above. First the working conditions experienced and the personal biases of the author will be described in order to make the analysis procedure clearer to the reader.

The analysis was carried out in the Patronato Panamá Viejo Archaeology Laboratory (Fig. 5.12.). For observational aids there were a simple magnifying glass, and low power microscopes, with a maximum of 10x magnification. Illumination was provided by daylight coming through meshed windows plus white neon lights attached to the magnifying glasses. A Munsell colour chart was unavailable at the time so all colour observations are subjective. Furthermore, during this classification exercise the real meaning of the term subjective became evident, for the classification of colour and other attributes can be affected not only by lighting conditions (poor or good) and available equipment, but also by dirt still affixed on the fragments (even after cleansing), small size of the sherds, the mood of the analyst, personal preferences and fatigue. The processing of large amounts of pottery can in some cases overwhelm the senses and cause the sherds to "look alike".

Another factor was lack of time to view every single fragment through the microscope to look for possible differences in attributes. In wanting to keep subjectivity to a minimum, it was decided that it would be best to carry out the entire classification without any help from assistants, as one analyst can introduce enough error already, but this made the analysis process lengthier.

Another potential source of error was the surface treatment itself. Where there is slip, which is generally red, it is usually so thin that it is very difficult to distinguish from a very high degree of polishing. Given that these sherds present a more intense red colouring than the rest, it was decided to group them all within a red slipped group, in contrast to those that are unslipped, or that show another slipping colour.

Quantification

The material was counted sherd by sherd and then grouped into different categories, separated by pit and by excavation level. Sherd weight counts were not used because of the lack of a scale or time to quickly weigh them. Weights were taken of all the sherds grouped together, by level and by pit.

The first stratigraphical level of the midden was level 4, and the deepest was level 8, fifty centimetres below the surface. As it was an even surface, and because of the relative short distance between pits, it could be said that all the levels in all the pits correspond to each other, and it was possible to sum the results of all to explore the temporal variations of the material. Spatial variation should be minimal as the distance between the farthest pits was 12 metres, presumably too small to account for any differences in space use through time.

Classification

Paste Composition: Wares

The first level chosen to segregate the sherds was paste composition; the combined compositional characteristics of the paste, clays and temper, coalesced or manifested themselves in two discrete appearances or colours. Paste colour is of course so varied and subtle an attribute that it can defy description (see Shepard 1954:102-113). Nevertheless, the different properties of the paste came together into two different, readily noticeable colours, red and white[26] that can be used to distinguish different wares (for example Knowlton 1996:160). Consequently there is a red and a white ware. The term "ware" was used to keep the study comparable with the latest classifications of the Eastern Region and Panamá Viejo, namely those of Biese (1964), the Stirlings (1964) and Cooke (1973).

The differences in the colour of the paste are due to "clay and temper composition, firing atmosphere, temperature and duration of firing". Other secondary modifications are produced by fortuitous occurrences such as postdepositional effects, need to be discounted when describing the colour (Shepard 1954:103). In this sample, some vessels have obviously been fired in an oxidising atmosphere, giving the paste a uniform reddish colour. Others present a paste with an incomplete oxidation, due to irregularities during the firing process. This phenomenon is typical of rudimentary kilns, where the atmosphere cannot be easily controlled, turning out an irregularly fired product (Jacinto Almendra, personal communication 1999).

Red paste fragments were the majority, showing reddish to orange colour in cross section. Most of the fragments present an incomplete oxidation, with blackened cores, but with reddish outer

[26] A closer observation of clay and temper was obtained from a small random sample of 40 sherds selected for thin sectioning, detailed in Appendix 1; this sample confirmed microscopically the separation of both wares.

edges that would be enough for the classification. The temper used included a combination of white, red, and black small grains (quartz?), probably river sand. Alongside these, we find larger rocks that have probably been ground from larger pieces. The size of the small grains varies, as well as their numbers and comparative proportions. In some sherds there is an almost exclusive prevalence of white grains, while in others there are more black inclusions than white, or there will be a similar proportion of white, red and black grains. There are also different degrees of grinding of the stony temper.

Directly related to the red colour of the paste is the surface look and feel of the vessels. Because in most cases surface treatment was a simple polish, a thin slip or a self-slip, the colour of the paste after firing determined the colour of the vessel. Thus, even when the first segregation attribute was the colour of the paste, the surface appearance also influenced the process of segregation, because the red colour of the paste affects the sherd's surface. This is what happened also in Biese's classification of the Red Ware.

White coloured paste fragments, the minority, were completely different from red ones, a readily apparent contrast, evident in the colour of the clay and temper inclusions. They were usually harder, more compact. The temper was also impossible to determine macroscopically. Due to their very low frequency, it is thought these white coloured paste sherds are trade material brought in from the Central Region (Jacinto Almendra and Richard Cooke, personal communication). White Ware fragments had a completely different surface appearance than the Red Wares, a difference that was readily noticeable. The unslipped or undecorated surfaces had a dark white to dark yellow colour, sometimes appearing buff or yellowish brown.

In this way the first level of the classification will be termed ware, and accordingly there is the Panamá Viejo Red Ware, and the imported material of the White Wares. Within these two major groups of pottery, there were several different choices to decorate the surfaces, discussed below.

Surface Decoration: Types

The second level of hierarchy for the classification constituted surface decoration. Included were slipping, be it red or white; the lack of slip (unslipped type); painted decoration, be it red, black or white; and combinations of slipping and/or polishing. This level of hierarchy was called Type, for example, there is the Unslipped Type, Red Slipped Type, Black Painted Type, and so forth.

It was very difficult to ascertain the difference between burnishing and red slipping because of the thinness of the slip, therefore they were collapsed into a single Red Slipped Type. However, this confusion only took place when dealing with the red coloured pastes. The white coloured pastes were obviously red slipped and not burnished, for to obtain a red colour out of a burnish, the paste itself must be red.

Smoking, or the appearance of fire clouds is most probably an unintended consequence of firing technique. Nevertheless, smudging, the intentional treatment of a pot's surface to give it a black and shiny appearance, was detected during the 1998 survey of the Plaza in a smudged plate found with calcium filled incisions on the rim. This find could warrant the creation of a Smudged Type of pottery, however, this type of decoration has not been found in this sample and will not be taken into account.

It is at this level that the classification stops, emulating archaeological studies in Eastern Panamá mentioned above, especially those at Taboga, Miraflores and Biese's site of Panamá Viejo.

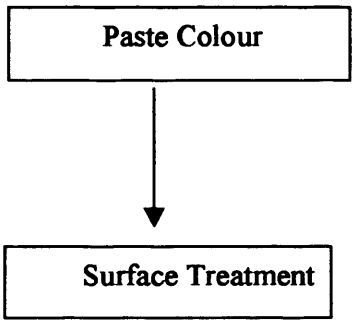

Fig. 6.1. Taxonomical hierarchy of pottery attributes used in this chapter.

Naturally, membership in a ware or type is mutually exclusive. At the same taxonomical level of Type, Painted Types and Composite Types must be included, according to the presence of red, black or white paint, and to combinations of technique on the same vessel (for example slipping and/or painting) respectively. The paint can appear over surfaces that are unslipped, red slipped, white slipped, or a combination of the three. Consequently we can have: Black Paint on Red Type, Black and White Paint on Red Type, Black Paint on Red and White Type, White Paint on Red Type

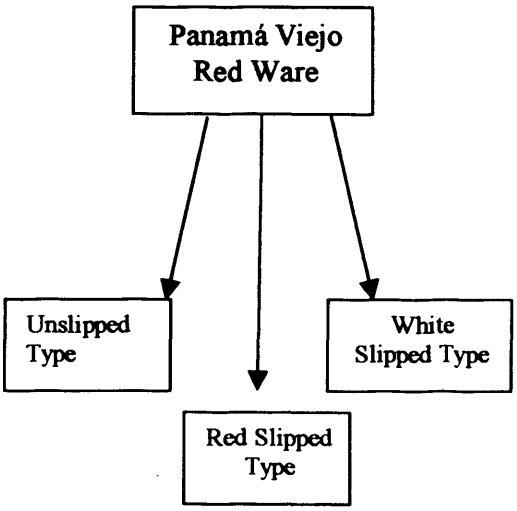

Fig. 6.2. Attribute hierarchy in taxonomical classification of Panama Viejo. The classification is the same for the White Ware.

Ware Temporal Variation

The great majority of sherds belonged to the red ware group, and this conspicuous prevalence could point to a local manufacture. The minimal amount of white ware could indicate that it is not indigenous to the site, or a custom made ware, fabricated in lesser quantities for special uses, outside the ordinary/domestic realm. Both wares show no significant diachronic variation.

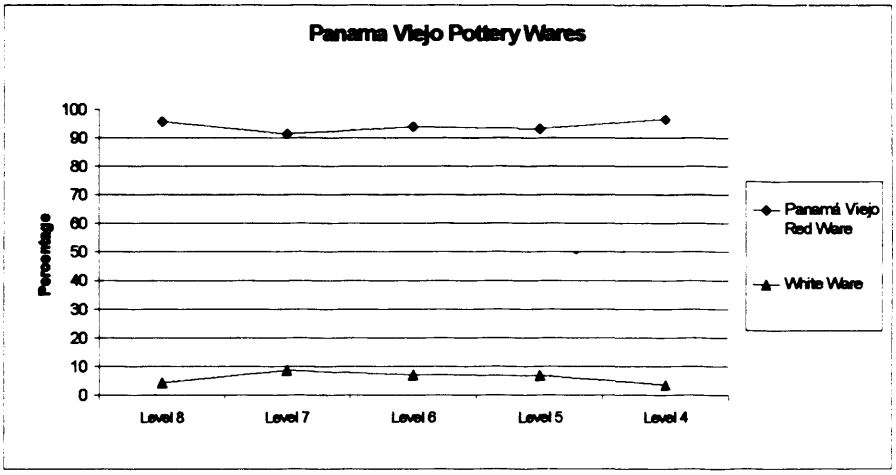

Fig. 6.3. Ware variation through time.

Panamá Viejo Red Ware Types

The major types in the Red Ware are, in order of frequency: Unslipped, Red Slipped, White Slipped, and Painted and Composite types. Unslipped type was the most frequent by far occupying more than 80% of the red ware, appearing in all the levels. Red slipped fragments came behind, sharing the remaining 20% of red wares. White Slipped fragments appear in very low frequency, and only after level 6 (most likely due to the smaller sample size of the lower

levels), together with Painted and Composite Types. There is also no significant type diachronic variation.

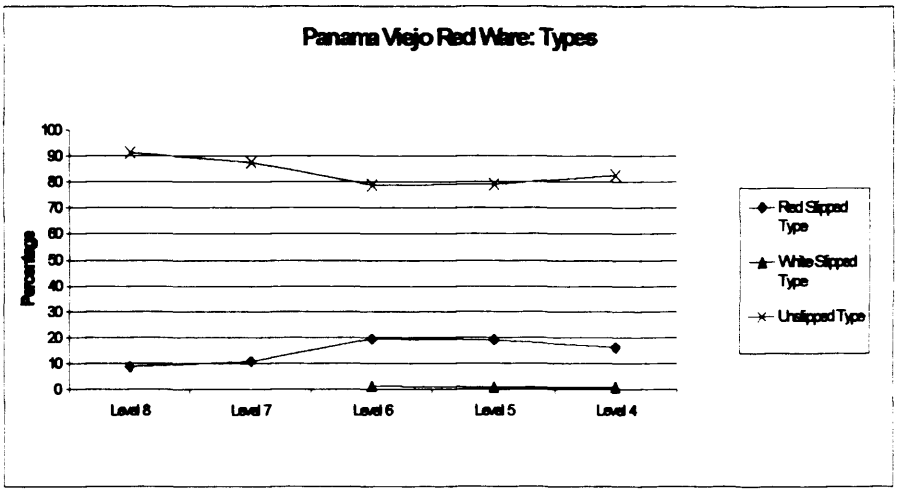

Fig. 6.4. Types of the Red Ware.

Painted Types

There are two kinds of painting present in the Red Ware sample: White Painted Type and Black Painted Type. Their low frequency could represent an imported ware, a very hard to obtain ware reserved only for special usage, perhaps exclusive to elites, or the statistical exception that confirms the rule that decorated pottery could not be discarded in the beach (this matter will be explained later).

Black Painted Type

There are 3 sherds with black paint in level 5 and only one in level 4. The level 4 sherd is a pedestal base with a black painted geometric decoration over a red surface. In level 5 there is another fragment belonging to the same type, an everted *escudilla* or plate rim, with black geometric designs painted on the exterior surface. Another present in level 5 is a fragment of a closed vessel, with three Black lines painted over an area covered half by red slip and half by white slip. The last one is a fragment in level 5 which comes from a plate with black and white lines painted over a red surface in the interior surface of the vessel.

White Painted Type

The only case of this type was of a sherd in level 6. It was the rim of an *escudilla* of which the lip was painted white inside and outside over the red surface.

Combinations of technique

Some fragments seem to exhibit a combination of both slipping and burnishing. There are two different types, a combination on the same vessel of white and red slipping, as observed before

with the black paint, or a white slipped interior and a red slipped interior. This occurs once in level 5 and once in level 4. They both belong to unrestricted vessels, with a red slip or appearance outside and a white slip inside.

The other type is a combination of polishing and slipping in which one half of the fragment is red slipped and the other half is polished; the difference between both areas is readily noticeable as intentional, yet both sides have a red appearance, in different tones. This occurs in level 7 on a restricted vessel. When it occurs in levels 5 and 4, once in each level, they are unrestricted vessels where apparently the outer side has been burnished or highly polished, and the inside has been given a red slip. But these two occurrences can be considered belonging to the Red Slipped Type. The frequency of painted and composite technique types is so low that no temporal patterns of change can be discerned.

White Ware Types

The white colour paste ware is the minority of the sample compared to the red ware, occupying not even 10% in any given level. The main types present were similar to those listed before: red slipped, white slipped, unslipped, and painted. Unslipped is the most frequent type, but not far behind in popularity is the red slipped type. White slipped and painted are almost non-existent. Again, frequency of white ware sherds is so low, even in the larger 1998 sample, that any apparent changes are most likely insignificant and due to the vagaries of small sample size.

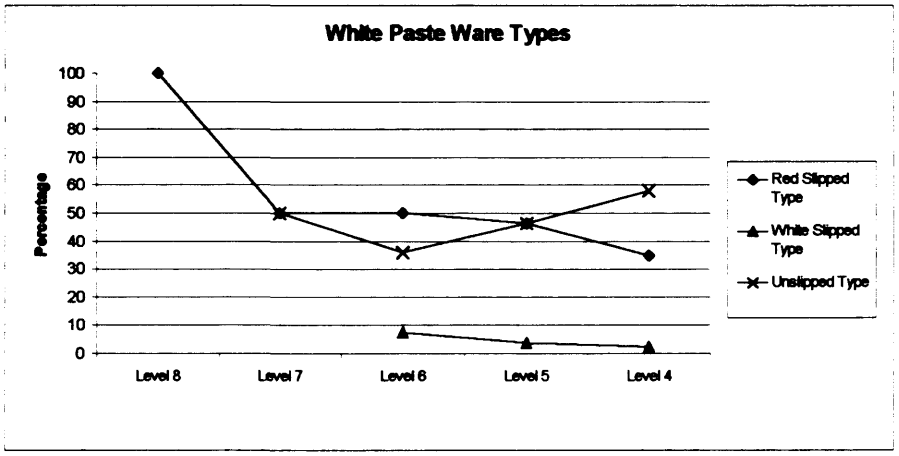

Fig. 6.5. Types of the White Paste Ware.

Painted Types

There were only five cases of paint observed on white ware sherds and only red and black paint was perceived. Four cases were black painted, and only one fragment showed red paint. This is a fragment from a restricted vessel, with a line of red paint over the white polished unslipped surface. The black painted cases were different. There are two varieties of black painted type: black over red slip, and black over red and white slip, two cases of each in level 5 and in level 4.

The black over red variety appeared, in level 5, on an *escudilla* rim with a red slip over the inner and outer white surface, and a black painted geometric design on the outside. In level 4 there was a plate with a red slip on the inner surface over which there was black paint. The outer surface was just polished.

The black over red and white variety, in level 5, consisted of an *escudilla* rim that was white slipped on the exterior surface, while the interior surface showed both red and white slip, and two black painted dots outside. On level 4 there is a fragment with red slipping on the outer surface, white slip on the inner surface, and black paint outside, all over the red slip.

Combination of Technique

There is only one case of this technique. It occurs in level 6 and it is a fragment of an unrestricted vessel, which is slipped red on the inside, and slipped white on the outside. The outer surface is half slipped, while the other half is polished.

Rim Analysis

Of the 2354 fragments recovered, only 141 rims were counted, and from those, diameter measurements could only be taken from 100. Drawings were made of 93 rims, necks and bases, from which forms may be inferred. No ring-base fragments were found in the sample, only pedestalled plate bases.

Rims appear to belong to four major categories, *ollas*, plates, *escudillas* and urns. The *ollas* had on the most part everted (outcurving) rims, but there were also some inverted (incurving) rims, which can also belong to urns. Sherd thickness was not a reliable enough attribute to differentiate urns from *ollas*, thus it was not used in the analysis. It was impossible to determine whether plates and *escudillas* had a pedestal, but it appears that plates with painted decoration or a good slip may be pedestalled.

Most *olla* sherds presented a dark brown or red-brown, plain and undecorated appearance, while most plates had a reddish burnished finish or a real red slip. The *escudilla* rims were mostly undecorated as well, except for one which presents a white painted lip, and its surface exhibits a red slip with dark brown patches. The urns also show an unslipped, undecorated surface finish.

	Count	%
everted rim	82	58.2
inverted rim	10	7.1
plate rim	11	7.8
escudilla rim	23	16.3
unidentified	15	10.6
Total Rims	141	100

Table 6.1. Rims according to their shape.

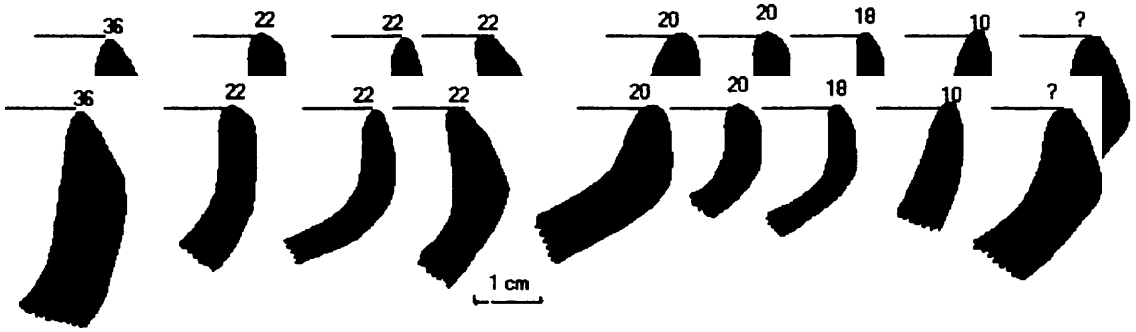

Fig. 6.6. Escudilla rims. The number above denotes rim diameter, and the question mark means it was impossible to determine diameter.

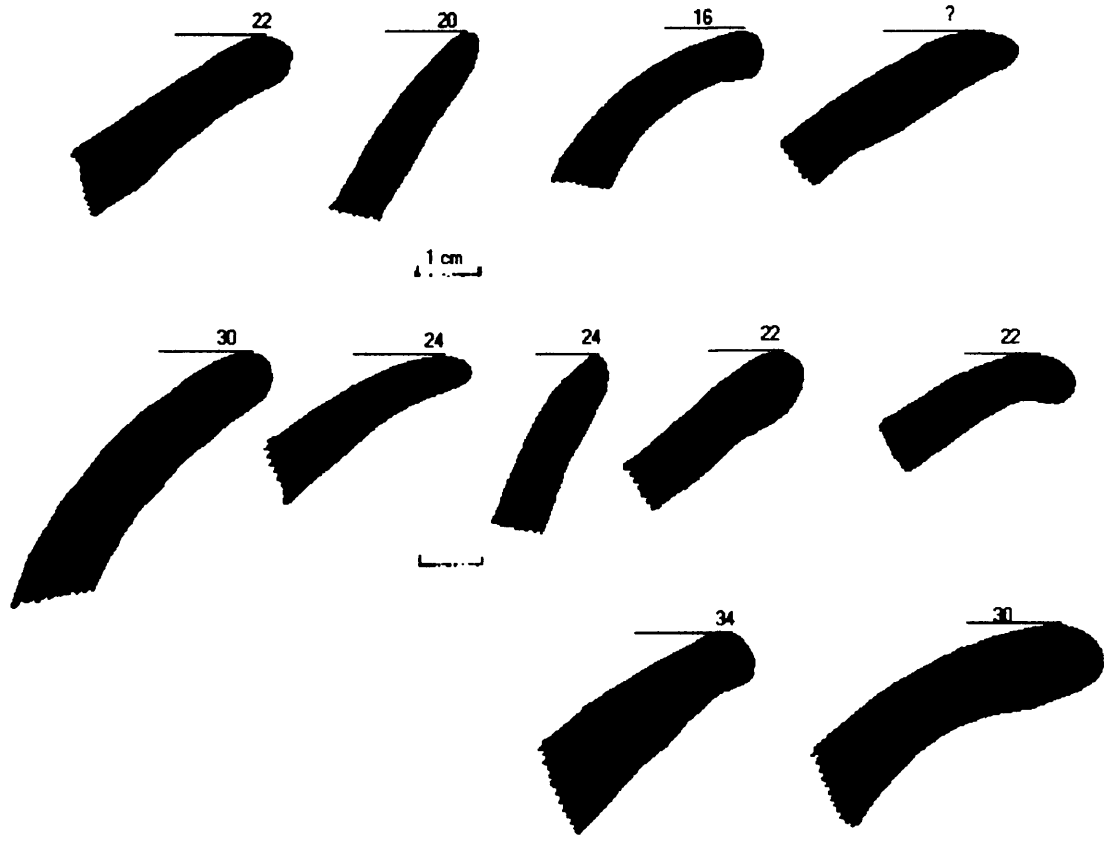

Fig. 6.7. Plate rims.

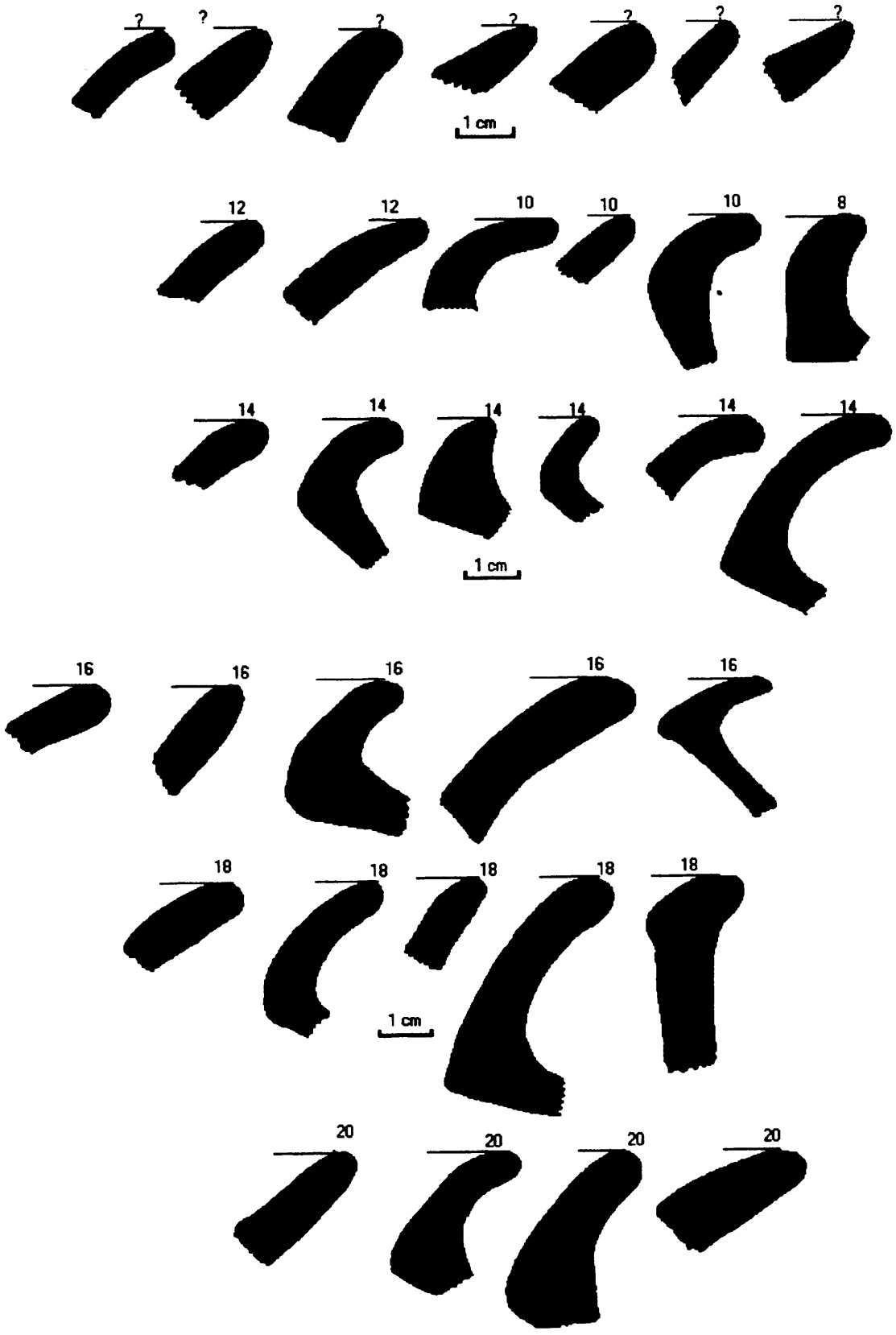

Fig. 6.8. Everted *Olla* rims.

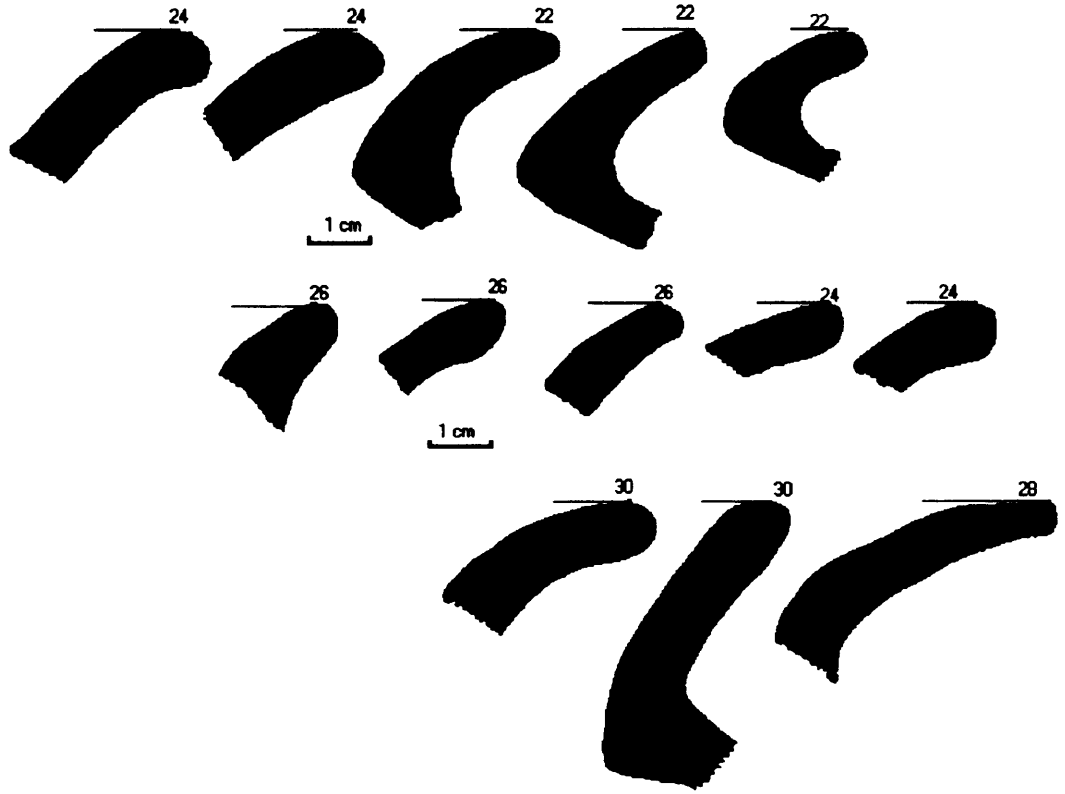

Fig. 6.9. Everted *Olla* rims.

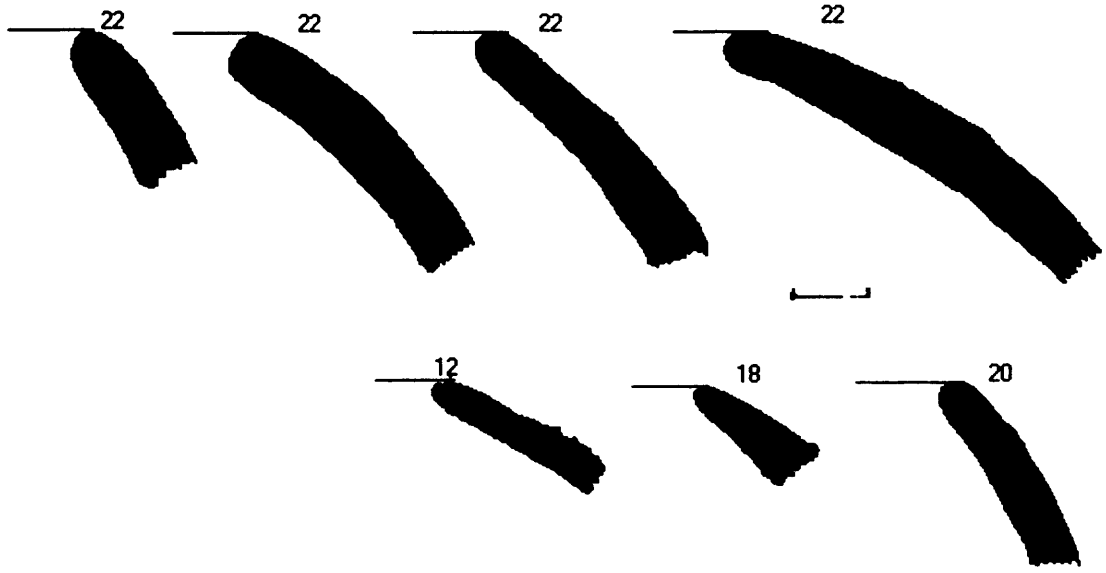

Fig. 6.10. Inverted or incurving rims.

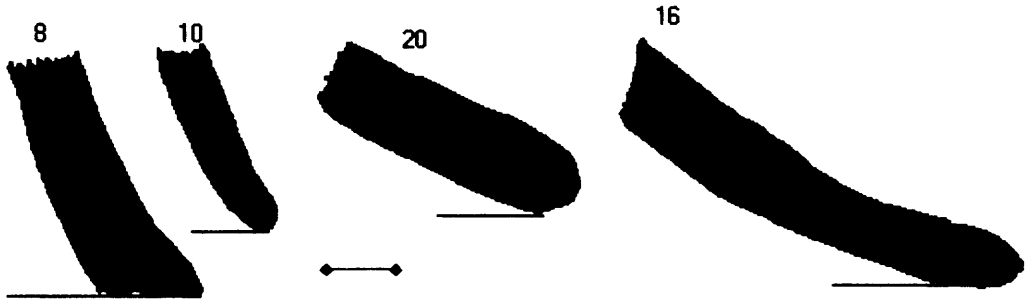

Fig. 6.11. Pedestal base rims.

Forms

A preliminary examination of rims, necks, bases and the whole vessels from the complete pottery offerings of the burials, Tumba 1, 2, 3, 4 and 10, four basic forms have been identified: plates with and without a pedestal[27]; globular jars or *ollas* with outflaring or incurving rims, and with a simple or composite contour; shallow bowls or *escudillas* with and without a pedestal; and globular burial urns. Shepard's terminology is useful when referring to open (unrestricted) and closed (restricted) vessels (1954:229-236). The wall thickness of the sherds varies from 3 to 20 mm, but the majority of body sherds average between 6 to 8 mm. The thicker body fragments, above 15 mm, probably belong to the large vessels that functioned as burial urns or liquid containers, as shown by the urns from Tumba 2 and 4; they could also be the thicker bottom sections of regular *ollas*.

Plates (see Fig. 3.11. right; 3.12., 3.17., 5.16. and 5.18.)

There are deep plates (probably with an elongated pedestal). Both pedestalled plates from Tumba 1 present a red slip and a black and white painted decoration. These may be akin to the Panamá Viejo Black and White over Red ware proposed by Biese (1964). There are also unrestricted plates without a pedestal, and shallow and deep plates with a carination in the shoulder, or with an outcurving rim.

Ollas (see Fig. 3.7. right, 3.8., 3.9., 3.10. left, 3.21., 3.22, 5.15., 5.17. left and 5.24)

Globular or subglobular containers with wide and narrow mouths (*ollas*), outflaring rims, and no decoration. All have convex bases. Some, like the ones accompanying Tumba 3, may be narrow mouthed *ollas*, presenting no slip, only a crude polish, and a multicoloured exterior, ranging from dark brown to red in different areas. Other globular jars, like those in Tumba 1, have a completely dark brown exterior due to smoking; one is completely globular, and the other presents a carination in the middle. In Shepard's terminology (1954:230) they are restricted vessels, with simple or composite contours.

Escudillas (see Fig. 3.16., and especially 5.26.)

Escudillas, cuencos, or incense burners. These *escudillas* may or may not have had an elongated pedestal as well. In Shepard's terms (1954:230-233) they are unrestricted vessels, with a composite contour, unlike a plate.

Urns (see Fig. 3.15., 5.19. and 5.22.)

They are large, restricted simple contour vessels, with or without necks. Burial urns may have had other functions before becoming interred, for instance the storage of liquids or foodstuffs.

Synthesis

Vertical variation of formal and stylistic content through the levels is minimal, a homogenous sample pointing to either a short amount of time for the formation of the deposit, or a conservative pottery tradition. Sherd deposition is represented mainly by the upper levels, probably 4, 5 and 6, while the lower two levels could constitute the drift material. The absolute dates point to a prolonged process of pottery deposition, perhaps starting around the dates in group 2, that is, from AD 1000 until at least AD 1300 or possibly the Contact period. Whatever the temporal duration, taxonomically speaking, there is no significant change detectable to warrant the creation of different temporal phases within the assemblage.

The vessels found in the burials can be used to infer shapes, as they date between date groups 2 and 3. They are the collared urns by the head and feet of the main individual in Tumba 1 (see Fig. 5.19 right), the pedestalled *escudillas* found near Tumba 3 and 4 (see Fig. 5.26), the burial offering of *ollas* in Tumba 3 (see Fig. 5.24.), and the burial urns in Tumba 2 and 4 (Fig. 5.22. and 5.25.). The pots above the cranium of the woman in Tumba 1 are a later addition to this burial and possibly postdate by 100 and 200 years the deposition of levels 5 and 4 of the midden. They are the pedestalled plates, and the *ollas* seen in Figures 5.15., 5.16., 5.17. and 5.18., belonging in date group 5. However, due to the lack of change detected in the sample, and because the shapes they represent seem basic enough, it is possible to use these vessels to infer the shapes of those fragmented in the midden.

With respect to the major types, that is Red Ware Unslipped Type and Red Slipped Type, they are the characteristic representative types of the sample. The presence of smoking seems to have been accidental and not intentional. It can be assumed that most Unslipped Type vessels would have been utilitarian domestic closed vessels for food preparation. Their surface would have been polished for impermeability and perhaps aesthetics. Some *escudillas* or shallow bowls may be

[27] Two pedestalled plates were recovered with Tumba 1, and two other plates with a carination on the shoulder were found unassociated in the midden.

represented in this Unslipped Type. Their use may have been in ritual or religious contexts, perhaps as censers.

Red Slipped Type vessels were in a minority within the Red Ware, but the intention of the potters to make them distinctly red is undeniable. Perhaps they served a purpose different to the Unslipped Type. They are generally better worked and have a better outer finish than the unslipped ones. The presence of a larger proportion of unrestricted vessels within this type may be an indication of a different use than that of the unslipped vessels. They can represent *ollas* with a red outer appearance, or plates and *escudillas* that have been either slipped or burnished, with or without pedestals.

The White Ware showed similar frequencies of Red Slipped versus Unslipped types. This is in high contrast to the Red Ware where Unslipped Types are the overwhelming majority. This could be confirmation of a definite difference between both sets of pottery.

In both Red and White Wares, the proportions of White Slipped Types were minimal and almost negligible as to their effects on the overall classification, the sample being too limited to provide any useful conclusions.

The taxonomical classification of the Panamá Viejo sample, as usually practised in Panamá, stops here. Further levels of qualitative segregation are generally avoided in studies in the region. The next logical step is to try to create a micro-chronology within this classification, and then tie it in with the macro-chronology of the Eastern Region.

Fig. 6.12. Panamá Viejo Red Ware Unslipped Type, notice the fire clouds on the surfaces. Photograph by Tomás Mendizábal.

Fig. 6.13. Panamá Viejo Red Ware Unslipped Type. Photograph by Tomás Mendizábal.

Fig. 6.14. Panamá Viejo Red Ware Unslipped Type. Photograph by Tomás Mendizábal.

Fig. 6.15. Panamá Viejo Red Ware Red Slipped Type. Photograph by Tomás Mendizábal.

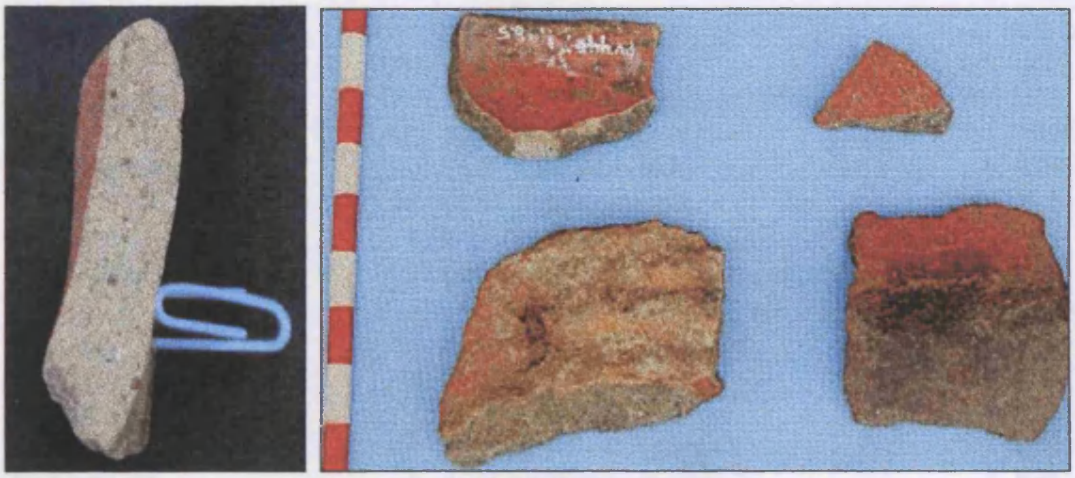

Fig. 6.16. White Ware Red Slipped Type. Photographs by Tomás Mendizábal.

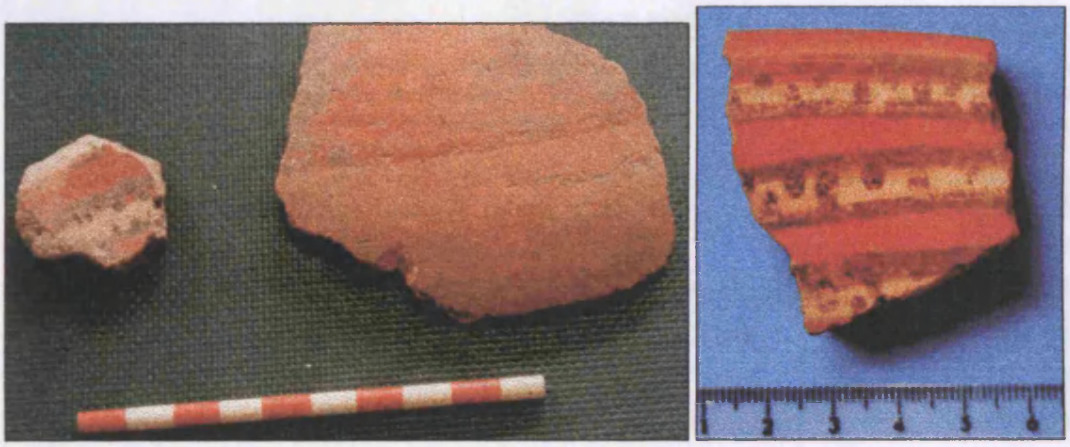

Fig. 6.17. White Ware Black and White on Red Painted Variety (left). Red Ware Composite Type Red Slipped and Polished Variety (centre). On far right, same type as far left, but found at Morelos habitation site, said to belong to El Hatillo Style Pottery, Mendoza Variety, from the Gran Coclé (Martín Rincón 2002b:195). Photographs by Tomás Mendizábal.

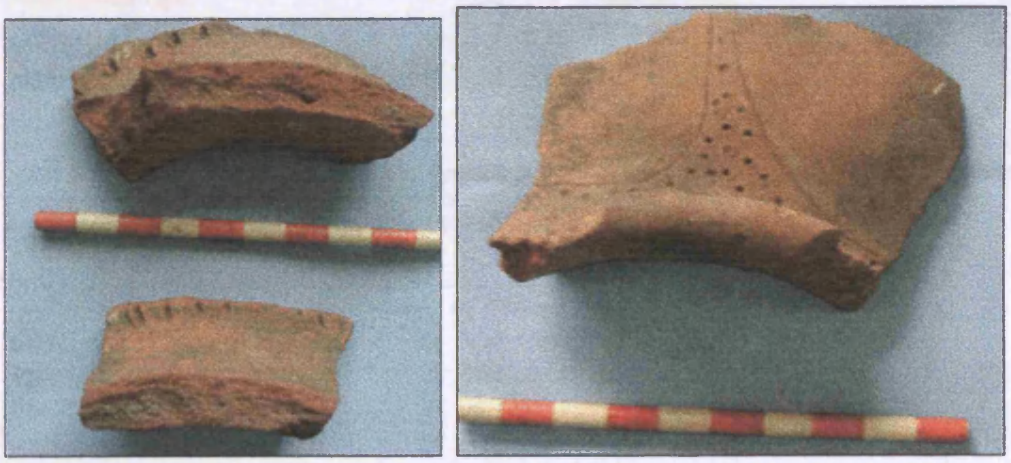

Fig. 6.18. Panamá Viejo plastic decorated sherds, of which there were just four from the 1998 survey. These simple incisions were the only plastic decoration found. Photographs by Tomás Mendizábal.

	Absolute	rel. %	Density		Absolute	rel. %	Density
Level 4	1189	100	1698.6	**Level 5**	865	100	1235.7
Panamá Viejo Red Ware	1146	96.38	1637.1	***Panamá Viejo Red Ware***	807	93.3	1152.9
Red Slipped Type	187	16.32	267.14	Red Slipped Type	153	19	218.57
White Slipped Type	9	0.785	12.857	White Slipped Type	6	0.74	8.5714
Unslipped Type	946	82.55	1351.4	Unslipped Type	641	79.4	915.71
Black Painted Type	1	0.087	1.4286	Black Painted Type	1	0.12	1.4286
Red and White Slipped Type	1	0.087	1.4286	Red and White Slipped Type	1	0.12	1.4286
				Black and White Painted Type	1	0.12	1.4286
White Ware	43	3.616	61.429	Black Painted Type	1	0.12	1.4286
Red Slipped Type	15	34.88	21.429				
White Slipped Type	1	2.326	1.4286	***White Ware***	58	6.71	82.857
Unslipped Type	25	58.14	35.714	Red Slipped Type	27	46.6	38.571
Black Painted Type	2	4.651	2.8571	White Slipped Type	2	3.45	2.8571
				Unslipped Type	27	46.6	38.571
				Black Painted Type	2	3.45	2.8571
				Red Painted Type	1	1.72	1.4286

Table 6.2. Wares, types and varieties in levels 4 and 5, expressed in absolute count, percentage and density (sherds/m^3). To achieve the density counts, the number of sherds in levels 4, 5, 6, 7 and 8 were divided by 0.7m^3, 0.7m^3, 0.6m^3, 0.4m^3 and 0.4m^3,respectively.

	Absolute	rel. %	Density		Absolute	rel. %	Density
Level 6	197	100	328	**Level 7**	70	100	175
Panamá Viejo Red Ware	185	93.9	308	***Panamá Viejo Red Ware***	64	91	160
Red Slipped Type	36	19.5	60	Red Slipped Type	7	11	17.5
White Slipped Type	2	1.08	3.33	Unslipped Type	56	88	140
Unslipped Type	146	78.9	243	Red Slipped over Burnished Type	1	1.6	2.5
White Painted Type	1	0.54	1.67				
				White Ware	6	8.6	15
White Ware	14	7.11	23.3	Red Slipped Type	3	50	7.5
Red Slipped Type	7	50	11.7	Unslipped Type	3	50	7.5
Unslipped Type	5	35.7	8.33				
White and Red Slipped Type	1	7.14	1.67				
White Slipped Type	1	7.14	1.67				

Table 6.3. Wares, types and varieties for levels 6 and 7. Values in absolute sherd counts, percentage and density (sherds/m^3). To achieve the density counts, the number of sherds in levels 4, 5, 6, 7 and 8 were divided by 0.7m^3, 0.7m^3, 0.6m^3, 0.4m^3 and 0.4m^3,respectively.

	Absolute	rel. %	Density
Level 8	24	100	60
Panamá Viejo Red Ware	23	96	57.5
Red Slipped Type	2	8.7	5
Unslipped Type	21	91	52.5
White Ware	1	4.2	2.5
Red Slipped Type	1	100	2.5

Table 6.4. Wares, types and varieties for level 8. Values in absolute sherd counts, percentage and density (sherds/m^3). To achieve the density counts, the number of sherds in levels 4, 5, 6, 7 and 8 were divided by 0.7m^3, 0.7m^3, 0.6m^3, 0.4m^3 and 0.4m^3,respectively.

Taxonomical Chronology

The taxonomical analysis presented here has been built following the same guidelines as previous studies carried out in the Eastern Region. Of prime importance for comparative purposes are the work of Biese in Panamá Viejo (1964), the Stirlings' in Taboga (1964) Cooke's in Miraflores (1973), and of Drolet (1980) in the Costa Arriba region. The three first studies have revealed a ceramic analysis with results that are, not surprisingly, similar to this one at least with respect to the morphology of the assemblage.

As chapter 3 shows, the trademark of the Eastern Region is ceramic homogeneity with plastic decoration being the favourite media to express ideas on vessels. The studies mentioned above have taxonomies that can be roughly equated to one another, but the temporal relationships that have been established are very tenuous, with only a couple of radiocarbon dates. Consequently, as a first step the chronology for Panamá Viejo will be built based on the taxonomy created in this dissertation, followed by an evaluation of how it can be linked to the extant chronology and typology of the Eastern Region, with a special reference to the case studies cited above.

Internal Micro-chronology

The advantages and raison-d'etre of the process of going from micro to macro-chronology are outlined by Lathrap (1962:46-48). It is necessary then to work out any possible temporal divisions from the different ceramic groupings created here. It must be also kept in mind that only groups on the same level of in the taxonomic hierarchy can be diachronically compared. In this way, only types can be compared to types, or wares to other wares. It would be theoretically unfeasible to compare a ware against a type. The history of wares cannot be compared to that of Types or Varieties, for they are measuring different attributes of the pottery. The history of wares is measuring the paste colour, while type history is measuring surface decoration, subsumed within paste colour. Even if the periodisation were similar, the different phases at each taxonomical level are explaining or demonstrating different processes. As each one represents a different temporal scale, the question then arises of which one to use when describing the site or explaining the events that occurred within it? How to choose a "true" or more representative history?

Of course the answer is, which is the research question in mind? "Only with specifically defined problems is it possible to evaluate the utility, parsimony, elegance and sufficiency of a given classification. Classifications need not be taken for granted. They must suit their problem or they are useless" (Dunnell 1971:118). Usually the problem they are suited for is time and its construction, but at the potential cost of partially excluding ceramic variability from analysis. The history of different taxonomical constructs or tools, be they wares, types or varieties, or at a larger

scale ceramic complexes or assemblages, produce differently scaled groupings and therefore different time scales. The temporal scale of the variety cannot be compared with the temporal scale of the ware. Consequently, if only like with like can be compared, what happens if in the next site types were formed based on a different attribute hierarchy? How can both be compared?

As said before, there is no significant diachronic variation in either the wares or the types to warrant the establishment of temporal divisions. It is either the long process of deposition of a conservative assemblage, or a very short deposition period precluding the introduction of much change in the sample. The absolute dates would seem to point to the first alternative. It is also clear that to link the taxonomical sample from Panamá Viejo to the rest of the Eastern Region pottery, the largest taxonomical group is fit for the task. Thus one should use the history built at the level of the red and white paste wares, with its single temporal phase for the formation of the midden of Panamá Viejo.

The differences in type frequency may be translated into different uses for the pottery, unslipped pottery being used in the domestic arena and therefore more abundant, while decorated pottery could have been used as a sumptuary ware or in the religious field. However, vessel function seems not to be as specific as thought, indicated especially by the burial funerary offerings. In Tumba 1, 3 and 6, there are plain looking, undecorated pottery types in a funerary context. Tumba 1 and 10 had decorated and undecorated pottery.

The main period of use of the area of the Plaza to deposit pottery occurred sometime between the ranges of date groups 2 and 3, that is cal AD 980 – 1280. The complete lack of Incised Relief Brown Ware from this deposit confirms a date later than at least AD 750.

Sample size impinges on the results of population behaviour analysis. Thus, it could be thought that the foregoing taxonomical analysis, based on the 1999 sample of 2354 sherds, could be inaccurate due to the relatively small number of sherds. But comparison with the larger 1998 sample of almost 10,000 sherds and with those from the 1996 Tumba 1 excavations, shows a very homogeneous material: a great majority of undecorated sherds and a minimal presence of decoration (see Table 7.7.). Thus the classification of the smaller 1999 sample would offer the same results as for the larger 1998 sample; the absence of chronological distinctions in the analysis of the former (with a much tighter chronological control) is probably also valid for the latter.

External Macro-Chronology

Here the taxonomy of Panamá Viejo will be chronologically related to those from sites in the immediate vicinity in the Region, trying to follow the procedure used by previous investigators. In order to do this, a synthesis of the typologies constructed in those areas will be presented,

especially those presenting the most striking ceramic similarities to the Panamá Viejo sample (see Chapter 3).

Taboga

The Stirlings defined ceramic groups that share affinities with those in Panamá Viejo. Unslipped Buff Ware, Red Slipped Ware and Orange Ware share many similarities with Panamá Viejo, except in that the morphology found in the Plaza was less varied. In fact the division they make between Red Slipped and Orange Slipped wares sounds very much like the transient separation made here between red slipping and burnishing. Also similar are the paste descriptions. However, painted decoration seems to be much more frequent in the Taboga assemblage than in Panamá Viejo, as well as incised decoration which is completely absent from the latter (Stirling & Stirling 1964). Excavating in Taboga in the summer of 1997, in a very small excavation pit I was able to recover pottery with a varied range of surface decoration. There was relief, incision, carving, stamping, scraping, red, black and white paint, slipping, many decoration types not observed frequently or at all in the sample from Panamá Viejo (Fig. 3.5.).

Biese's Panamá Viejo

Biese (1964) defined some types of pottery very similar to those in the present sample. He states that the undecorated red ware was found in a 50:1 ratio compared to anything else, yet he chose to ignore these "unworthy" sherds, in favour of the more colourful red slipped ones (Biese 1964: 28). The Panamá Viejo Red Ware he describes is too similar to the sample here presented to be a coincidence.

Biese's Red Ware corresponds to both the Red Ware Red Type and Unslipped Type. More evidence for correlation between both sites is Biese's Black and White on Red Ware, with two vessels of this type accompanying Tumba 1. Another correlation between both assemblages are the burial urn lids he found, which are shallow bowls or plates. He created a separate type for them, the black on white rimmed red ware, where a black over white painted decoration is placed over the red slipped body, especially the rim, which corresponds to the lid for Tumba 2 (Fig. 3.16.), which is an open plate, on whose inner surface is placed a black on white slip decoration over the red background, forming a negative red YC design in the centre, surrounded by a red negative and black painted rings. On the rim is more of the black paint, laid out in a geometric design very similar to those illustrated by Biese (1964:Fig. 1).

He also has Votive Ware, which appears in Tumba 10, suggesting a further link between both sites (Fig. 5.34.). Another coincidence are the gourd effigy Red Ware vessels found by Biese and also in Tumba 10 (compare Biese 1964: Pl.10 a, with Fig. 5.32. and Fig. 5.35. from Cupica). Apparently these Red Ware gourds appear in Sitio Conte in both red and smoked wares, considered to be primarily late characteristics (Biese 1964:31-32). An identical vessel was also

found at Cupica by the Reichels, the Carmelita Fina type (Cooke 1998:fig 8.3-g). Unfortunately, all but one of Biese's Votive Ware artefacts were found unassociated in the burial area, so he was not able to even speculate about their dates. Votive Ware is also considered to be a later development in the Eastern Region, tentatively dated to AD 900 – 1500 (Cooke 1973:400).

Other instances of Red Ware from the Plaza sample are exact copies of materials shown by Biese. The other two red pots that accompanied Tumba 10, together with the effigy gourd and the Votive Ware, are identical to Biese's figures 8c, 8f and 9b. Figure 8d is a pedestalled *escudilla*, another one of which is also found in the Tumba 10 funeral offering and another near Tumba 4.

Miraflores

Cooke created several ceramic types at Miraflores. His sorting criteria were followed almost exactly in this study, but without purposely striving to do it. The coincidence in classification was entirely a result of the taxonomical classification process. Cooke united the majority of the pottery at the site into a single Miraflores Red Ware, with several sub-types or varieties, mostly undecorated. These are Miraflores Red, Miraflores Unslipped and Miraflores Thin (Cooke 1973:384). The shapes were divided thus: non-restricted vessels (open mouths), and restricted vessels (closed mouths). Some of the pedestalled plates and escudillas, *ollas* and other restricted vessels are similar in form to those seen at Panamá Viejo. However, and despite the formal similarities, the Panamá Viejo sample post-dates Miraflores'.

Atlantic Coast

Drolet's Santa Isabel Undecorated type shares similar forms and decoration to Biese's Panamá Viejo Red Ware and to this study's pottery.

Conclusions

Considering the absolute dates from Panamá Viejo and Biese's material, the sample from the Plaza could be placed at a period around and after AD 1000, up to the Contact period. This accounts for the period encompassing stratigraphical levels 5 and 4, as there are no dates for the preceding levels 6, 7 and 8. The dates and the pottery types indicate the midden post-dates the disappearance of IRBW from the cultural repertoire of the Eastern Region, sometime after AD 750. The presence of Votive Ware associated with the Red Ware vessels in Tumba 10 is yet another important temporal association to a period well in the 2nd millennium AD. Unfortunately, it is impossible to tell how much time actually elapsed in the accumulation of the 50 cm of deposit. The AMS dates indicate that activities in the Plaza were contemporary with those at the Morelos site. The burials in the Plaza, however, postdate the midden formation because they intrude in it, although the disposal of pottery did not necessarily cease after the burials were practised.

It would seem safe to assume that the Red Ware is the equivalent of Biese's Panamá Viejo Red Ware, Cooke's Miraflores Red, Stirling's Orange and Red Slipped wares, and Drolet's Santa Isabel Undecorated (the similarity is especially close to Miraflores types, in which the main subdivision within the Miraflores Red ware were Unslipped and Red Slipped Types). It is most possibly of local manufacture. Unfortunately none of these sites are reliably dated except Miraflores. Furthermore, there are no other well dated 2nd millennium sites in the Region to compare against, so the chronological relationships here established must be taken with prudence.

The White Ware can be assumed to be trade ware imported from elsewhere, most probably the Central Region, very likely the Coclé del Norte region (Griggs et al. 2002). The paste admixture is completely different from the Red Ware. Their low frequency would seem to point to a special set of pottery, distinct from the Red Ware.

The long period of deposition of the Panamá Viejo Red Ware would also advance the idea for a "monochrome ware tradition" in the Eastern Region, with the appearance of Miraflores Ware in ca. AD 735 – 1000 up to Panamá Viejo's Red Ware dated to ca AD 1000-1200 (see conclusions of Chapter 3), also seen in Taboga, Far Fan, the Atlantic Coast and other sites in the entire Eastern Region, bordering the Bay of Panamá possibly all the way down to Cupica (see Appendix 2, especially Miranda's work). Possibly 500 years of pottery in the region between Miraflores and Panamá Viejo, sharing a similarity in form, and similar surface decoration attributes, in this case, a reddish appearance caused by red slipping, a high polishing of a red coloured paste, or simply not decorating the fired red pastes for when unslipped, this red paste leaves a red-brown colour. This is an indication and possibly a confirmation of the before mentioned conservatism in Eastern Region pottery.

If the absolute dates reported by the different authors are trustworthy, this "monochrome tradition" could be seen as starting perhaps as early as Santa Isabel Undecorated times (maybe not back to AD 1, but later), until at least AD 1500 as proven by the Panamá Viejo AMS dates. It would predate and then outlive the IRBW type, supposedly the characteristic type of the Eastern Region. The Panamá Viejo Red Ware would then be equivalent to the Red Ware found by Biese, and that in Taboga, Miraflores and the Atlantic Coast.

From the preceding discussion the following can be postulated. From roughly AD 750 until at least 1300, the ceramic vocabulary available to the potters in the western end of the Eastern Region showed some cohesion with respect to surface decoration. The overall morphology of the vessels demonstrates a wide local variation from site to site. However, the surface decoration of the pottery, especially the choice not to decorate, or a plain decoration resulting in a red coloured and polished outer appearance was widely distributed, from Panamá Viejo and Taboga, certainly

going through Miraflores and the Bayano Region, possibly to Darién and Cupica. The plastic decorated types need to be further studied for a better understanding of their development.

The following chapter deals with the results of the modal analysis on the same ceramic material, and a demonstration of how it can create different results and a different chronology when compared with a taxonomical analysis.

Chapter 7
Modal Analysis of Panamá Viejo Pottery

Introduction

Whereas chapter 2 discusses at length the definition of the mode, its theoretical implications and the method of modal analysis, this chapter deals with the modal classification of the same sample that was classified taxonomically in chapter 6. The modes here presented were distinguished along several "dimensions", loosely following the work of J. Scott Raymond, Warren R. Deboer and Peter G. Roe in their ceramic classification of the site of Cumancaya (1975), heavily influenced by Lathrap's work. These dimensions are "axes of variability" where the modes are aligned. In some dimensions the modes are mutually exclusive, while there are others in which co-occurrence is possible, as in the surface decoration dimension. The term mode shall be used following Lathrap's definition (1962:218), as a unit to designate a minimal unit of meaningful behaviour with regard to material culture. However, in the construction of time, not only modes will be used, but also attributes in the pottery that although culturally caused, were not intended by the potters, that is, attributes that are not modes.

Ceramic features or attributes (Lathrap 1962:214-218; Spaulding 1960) owing to random or unintended behaviour may not be meaningful and consequently do not constitute modes as such; therefore they are useless in a synchronic analysis. For example, attributes such as fire clouds (smoking) and erosion appear to be a random occurrence in this assemblage, happening either at the pottery kilns or through domestic use for the former, and due to defective manufacture for the latter. An attribute such as the thickness of the fragments may not be useful because if by any chance most fragments come from the bottom of the vessels and not other parts, calculations would be skewed in favour of the these usually thicker fragments. Still, if an attribute such as smoking proved to be intentional, then it would become a mode useful for a synchronic cultural analysis.

However, in building time these features may have chronological importance, as they can indicate diachronic changes in the pottery assemblage and therefore are not to be ignored. A diachronic study of pottery and its concomitant construction of time has to use all available variability, intentional or unintentional. In this manner, if the above-mentioned fire clouds were to disappear from the record in a certain stratigraphic level, that would indicate diachronic change from a non-meaningful ceramic feature, perhaps an improvement in firing technique for instance.

Dimensions	Present Modes
Paste	
Colour	Red, White
Temper	Sand, Stone, Shell, Other
Hardness	Compact
Surface Treatment	
Slipping	Unslipped, Red Slipped, White Slipped
Polishing	Presence or absence
Burnishing	Presence or absence
Plastic Decoration	Presence or absence
Painted Decoration	Red, White, Black
Field of Application	Outside, inside, both
Morphology	
Vessel General Shape	Unrestricted (Open), Restricted (Closed) Vessels
Rim Diameter	
Diameter according to vessel type	Small or large *ollas*, small or large plates, *escudillas*, urns.
Vessel Form	Plates, *Ollas*, *Escudillas*, Urns
Fragment Provenance	Bodies, Everted Rims, Inverted Rims, Necks, Bases, Handles
Fragment Thickness	
Other Non-modal attributes	
Firing of the Paste	Full Oxidation, Incomplete Oxidation, Full Reduction
Smoking or Fire Clouds on the surface	
Erosion	

Table 7.1. Ceramic dimensions, subdimensions and modes used in this study.

Modes

What follows is the listing of un-clustered modes and their diachronic development through the levels of the midden. Qualitative modes were recognised by observation of differences within each dimension, a straightforward procedure. "They are discrete properties of artifacts and the scale applied is no more than a notation of presence or absence" (Spaulding 1960:440). Quantitative modes such as a sherd's average thickness and mouth rim diameter, where variation is continuous, were determined by statistical curve-fitting, searching for the mode as the most frequent value, to determine whether the curves were unimodal or polimodal, ultimately turning them into discrete qualitative attributes as well (Spaulding 1960).

Paste Composition (Red and White coloured paste modes)

As in the taxonomical analysis, the characteristics of paste composition coalesced into two distinct paste types, distinguished by two discrete colorations: reddish and whitish paste colours. Reddish paste occurs in much higher frequencies than whitish paste, and both pastes appear in all levels in very similar frequencies.

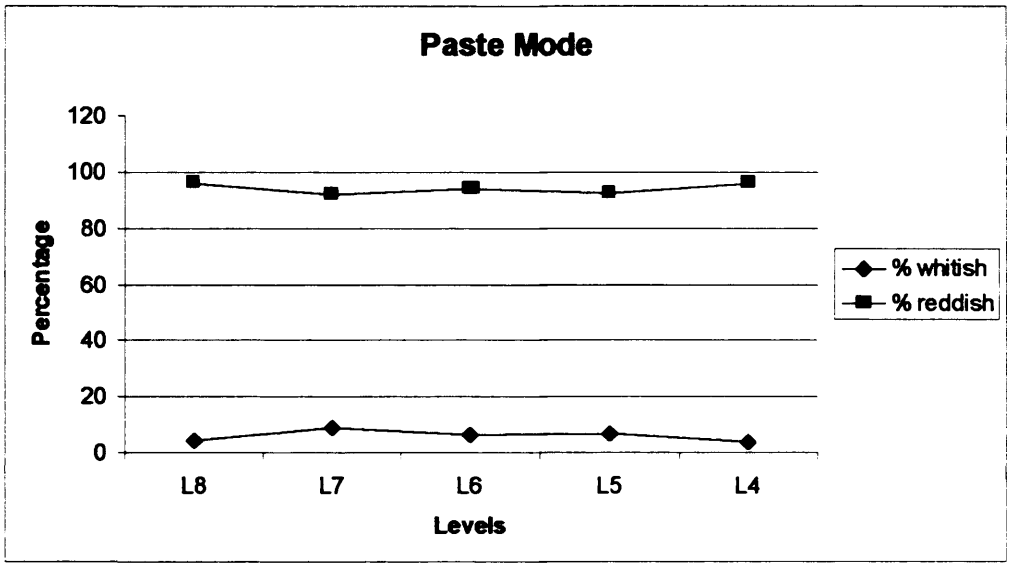

Fig. 7.1. Frequency of occurrence of paste colour modes in time.

Firing of the Paste

Three distinct attributes were noticed referring to the firing of the paste. Full oxidation, where there was a single colour throughout the width of the fragments; incomplete oxidation occurred when fragments presented a burned core, or a difference in colour through their width; and full reduction occurred when the paste was completely darkened. Overall, there was a preponderance of incomplete oxidation, with fully oxidised fragments coming a distant second in frequency, and fully reduced pieces a minimum quantity.

In this pottery collection the firing of the paste does not seem to constitute a mode as it was most probably much affected by random occurrences within and without the kilns, such as poor temperature and atmosphere controls, yielding most of the times an incompletely oxidised product, even if full oxidation was the ideal purpose. Or simply perhaps to the potters it was irrelevant how well the paste was fired. Fully reduced fragments were probably not intended at all, and if they are somehow tied to intentionally smudged vessels, it is impossible to know.

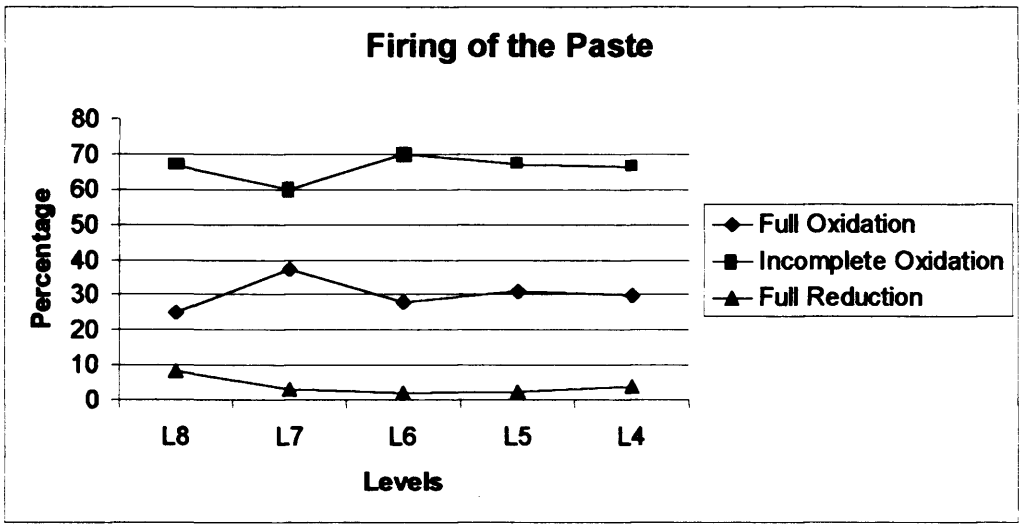

Fig. 7.2. Firing of the paste through time

Hardness of the Paste

The paste was either noted as compact or friable depending on the possibility of breaking it with a fingernail. Compact fragments are the majority, and friable fragments appear in a minimal frequency. Friable paste always remains in the minority, suggesting that the mode in this case is a compact paste, that is, the potters were aiming for a paste with a compact structure. The friable paste can be considered as low quality or poorly made pottery, and not an intentional aim of the potter.

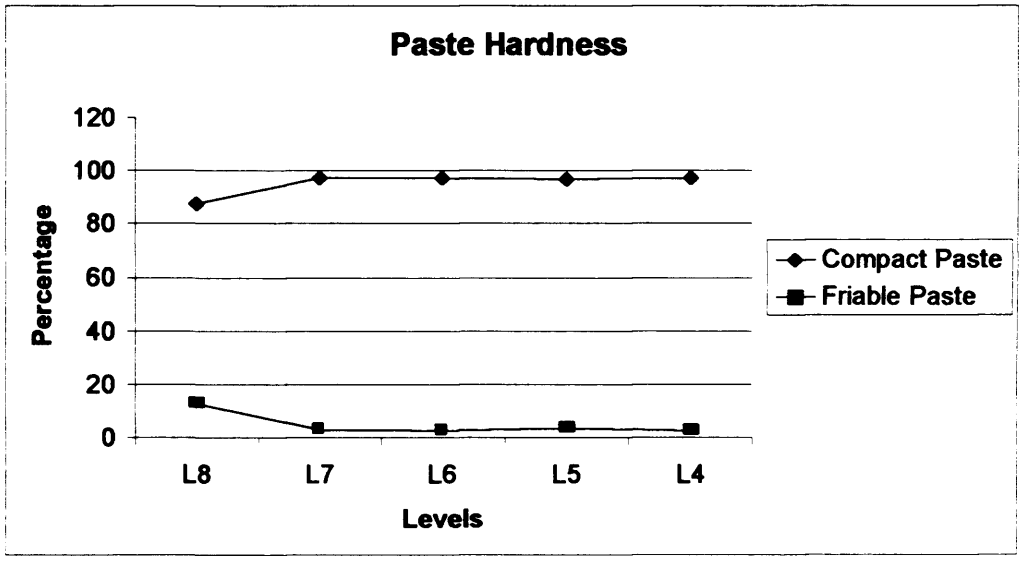

Fig. 7.3. Paste hardness through time.

Surface Decoration Modes

There occurred several surface decoration attributes, which constitute qualitative modes even if occurring only once. Surface treatment modes could be achieved on the pots in three distinct

ways: on the outer surface, inner surface, and on both. Therefore there are three modes of field of application, modes that apply to all the other modes that can be affected on the surfaces of a vessel. As for surface decoration, there are red slipped sherds, white slipped, unslipped, or a combination of the three, and there is also black, red and white paint present. Because one or more modes can appear on the same sherd or vessel, their percentile diachronic development will be presented separately.

Unslipped

The most obvious and frequent mode noticed was the unslipped appearance of the majority of the ceramic fragments, that is, the intentional choice of not decorating the vessels with anything beyond a simple polish. This gives most of the pottery a rough, plain feel and look. Usually over 70% of the sherds in a level were unslipped in all the levels. There is no noticeable substantial vertical variation on the proportion of unslipped fragments as they always include at least ¾ of the assemblage.

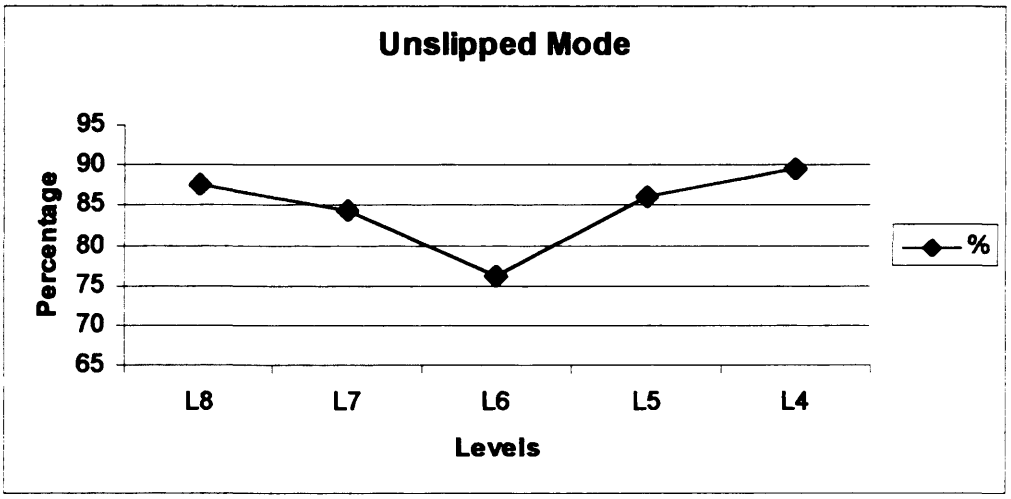

Fig. 7.4. Unslipped mode through time.

Polishing

Polishing showed varying degrees of intensity, but it was still recognised as intentional. The frequency of fragments with polishing on the exterior surface is almost always 2/3 of the assemblage.

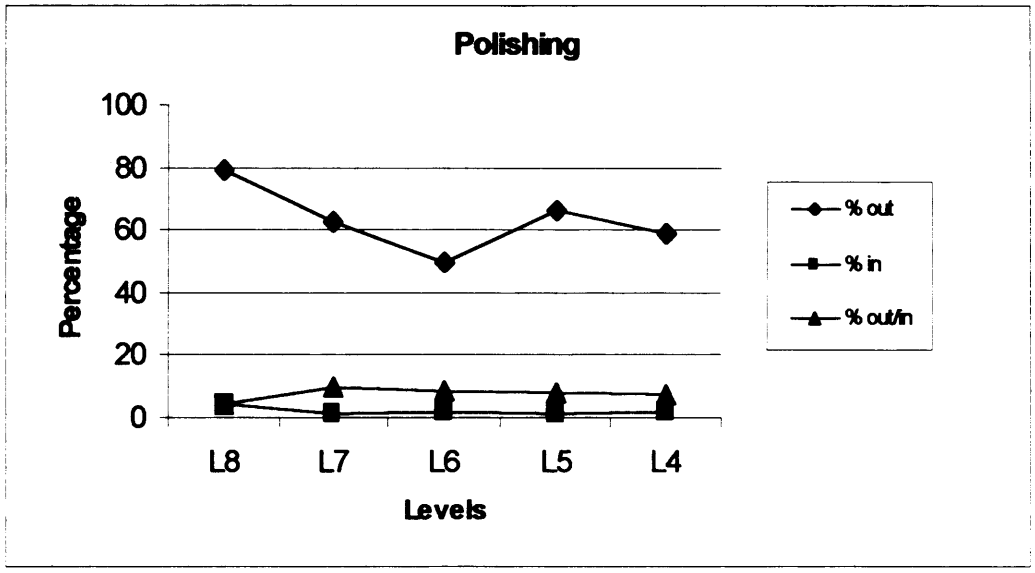

Fig. 7.5. Polishing through time.

Red Slip

Red slip is the most common slip. It is generally a very thin slip, which makes it very hard to distinguish from a burnishing (high polish that gives a reddish appearance to fragments). This is why red slip and burnishing have been joined to form a single Red appearance mode, occurring in the outer, inner and both surfaces. The probable original intention of the potters was for a red appearance or colour. While occurrence on the inner and inner/outer surfaces remains very low throughout the sample, almost in equal proportions, outer red slipping is always present in higher numbers.

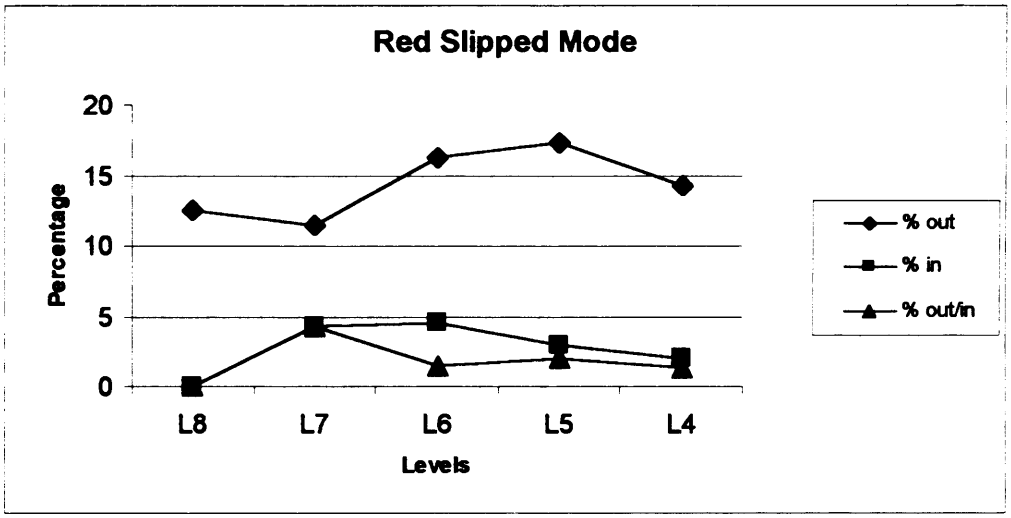

Fig. 7.6. Occurrence of Red mode in time.

White Slip

White slip mode is almost an exception. Again there is outer, inner and inner/outer white slip. Very few fragments present a white slip and the ones that do are sometimes also decorated with black paint. In other cases there is a combination of white and red slip on the same vessel. However, there are some differences. Outer white slip is generally more popular than inner or inner/outer, but the three seem to decrease in frequency from level 5 to 4, after their first appearance in level 6.

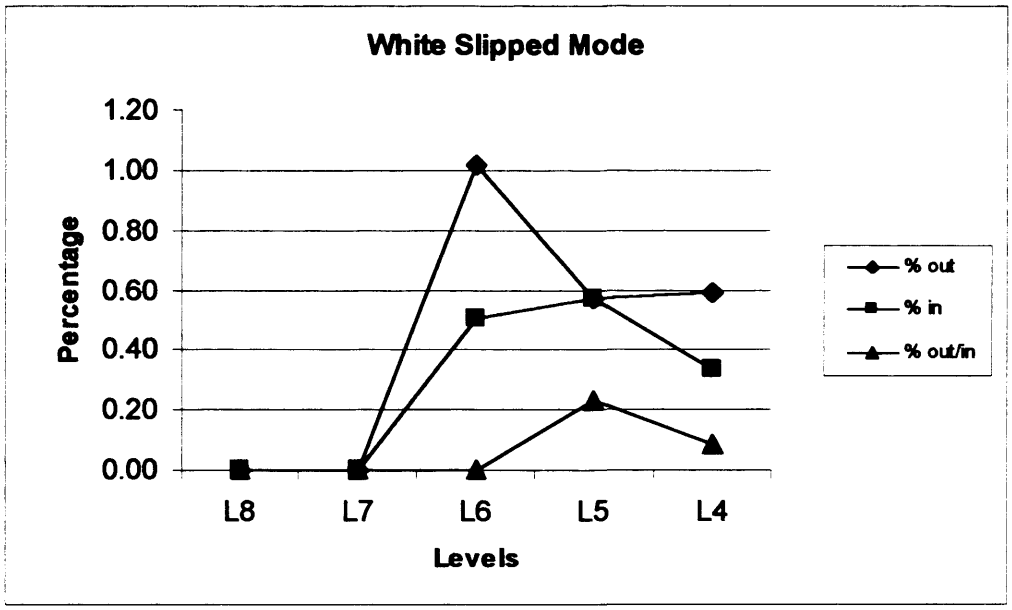

Fig. 7.7. White slipped modes in time.

Red, White and Black Paint Modes

This decoration usually takes the form of lines or other geometrical painted designs, yet the fragments are too small to identify any design patterns. Hence the modes were defined only as the appearance of black, white or red paint, occurring in very low frequencies. They never occur below level 6, and within it, only once. Red paint occurs only outside, while black paint occurs in the outer and inner surfaces. White paint appears in all three combinations, outer, inner and inner/outer surfaces. Red paint only occurs on the outer surface in level 5. Black paint occurs in levels 5 and 4. Outer black paint begins in level 5 and decreases in frequency in the next level. Inner black paint appears in level 5 and appears again in the same frequency in level 4. White paint appears in levels 6 and 5. In level 6 it is inner/outer mode that occurs, in level 5 it occurs inside and it never occurs alone on the outside. Overall painted decoration is insignificant throughout the sample, although it is far more frequent in the pottery recovered from the Morelos excavations.

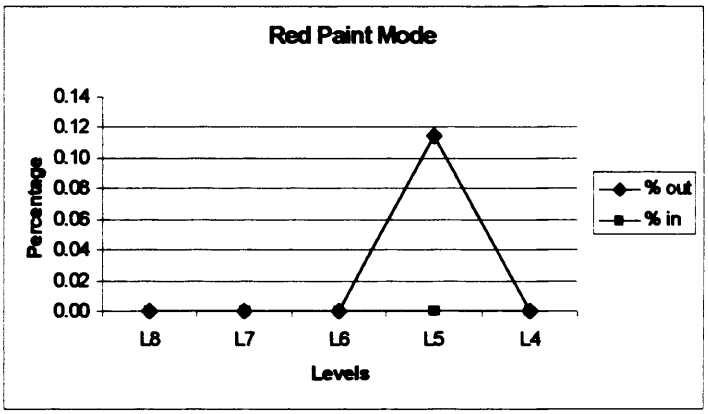

Fig. 7.8. Red painted modes in time.

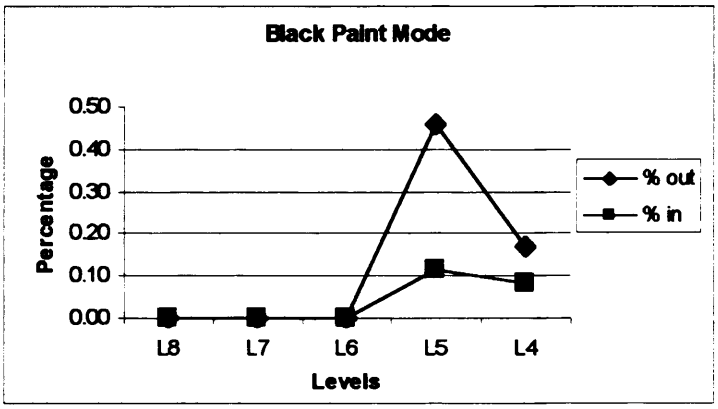

Fig. 7.9. Black painted modes in time.

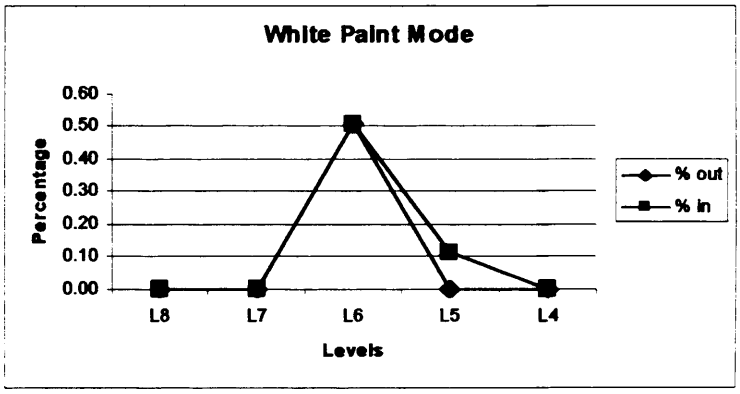

Fig. 7.10. White painted modes in time.

Morphology - Open or Closed Vessels

The vessel's general shape, whether it was an open or closed container (unrestricted or restricted respectively), was also observed as a mode. This was rather difficult to determine as most of the fragments belonged to main body parts (*panzas*), not rims, bases or necks. Consequently, to make distinctions possible, any fragment being a non-diagnostic body that presented polishing or any other decoration on the inner surface was considered as belonging to an open vessel. The

reasoning behind this is that decorating the inner surface of a closed vessel would be not only difficult to accomplish but would also render this decoration invisible to the potential users.

The frequency of closed vessels outnumbered by far the one for open vessels. This fact could substantiate the idea that this is a preponderantly domestic ware, mainly composed of restricted mouth *ollas* for preparing cooked meals.

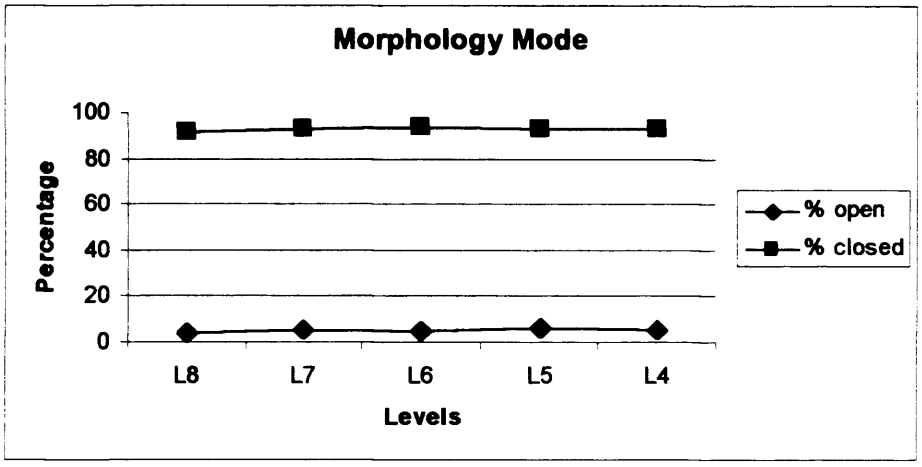

Fig. 7.11. Open (unrestricted) or closed (restricted) vessel form in time.

Rim Mode (Ollas, Escudillas, Plates, etc.)

Through comparison with the complete vessels, the rims could be tentatively correlated to their "corresponding" shape, that is, *olla*, *escudilla*, or plate. Even though there is a very small sample of rims (142), compared to the size of the assemblage (2354 sherds), the modal rim analysis has shed some interesting results.

Of the 142 recognisable rims recovered, 16.3% were *escudillas*, 7.09% were plates, and 66% were *ollas*. The other 10% were recognised as rims, but impossible to identify due to their small size. When these percentages are broken down, it becomes clear that in no levels are *escudillas* and plates represented in more than a very small minority. *Escudillas* never show up below level 6, and plates never occur below level 5. *Ollas*, on the other hand, are much more common occurring in all levels, from 4 to 8. This last fact is probably significant: that even with the small number of fragments recovered from levels 7 and 8 *olla* rims occur in those levels, when only 142 rims out of 2354 fragments were found.

There are also inverted rims (pointing towards the interior of the vessels) that could belong in principle to any restricted vessel shape, but probably represent either urns or *ollas* (Fig. 6.16.). Inverted rims are a small minority never appearing below level 5, while everted (pointing to the exterior) rims occur in all levels, in greater frequencies. This vertical distribution of inverted and

everted rims, plus the low occurrence of rims overall could be indicating change in modal distribution, with inverted rims appearing only later in time than the everted ones. This will be elaborated further below, when in the construction of the history of the midden, the entire sample of almost 10,000 sherds from the 1998 excavations is included.

There are also two instances of outflaring plate rims, both in level 4, and one occurrence of outflaring *escudilla* rim, this one in level 5. They are 3 isolated cases occurring only in the upper levels.

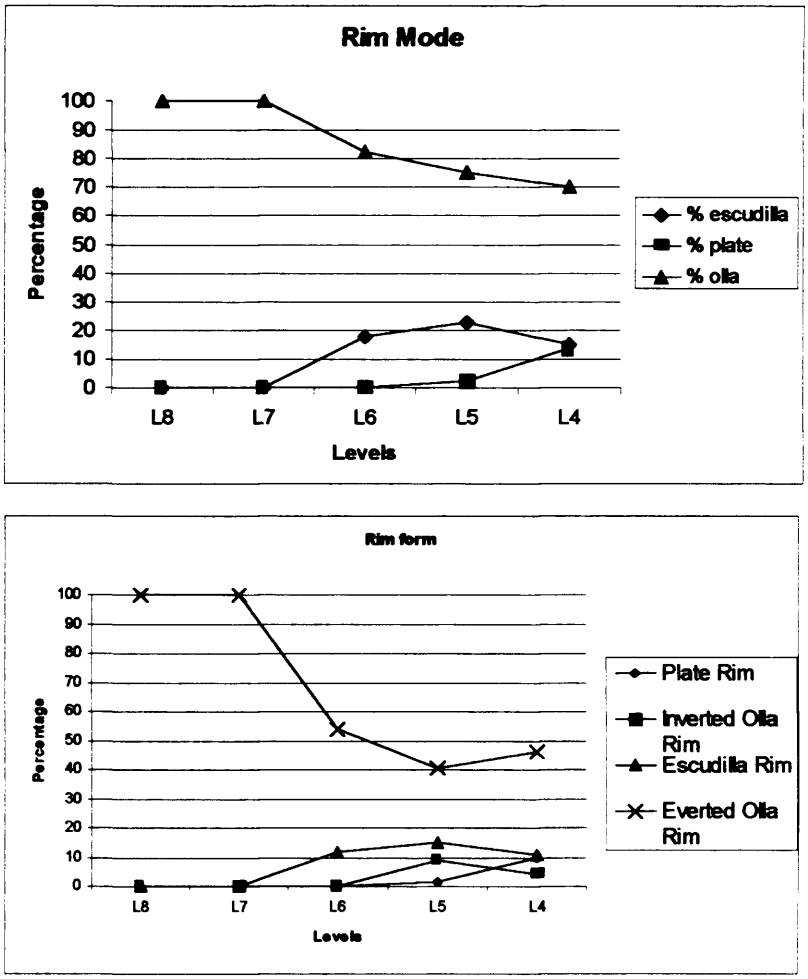

Fig. 7.12. Variation of rim mode in time.

Mode of Rim Diameter

Diameter measurements could only be taken from 96 of the rims. No diameter measurements were taken below level 6. The rim diameter modes were grouped according to vessel type, with different modal rim diameters for *ollas*, urns, *escudillas* and plates. *Ollas* show two distinct modes, 6 to 20 cm and 22 to 28 cm in diameter, small and large *ollas*. The incurving rims, which can represent either urns or *ollas*, show variation from 8 to 26 cm in diameter, a single mode. *Escudillas* also present one mode from 10 to 20 cm in diameter. Plates appear to present two

modes, from 12 to 20 cm and 28 to 30 cm, again small and large plates. Although it was possible to identify tentatively *olla* rims in levels 7 and 8, it was not possible to take their diameter measurements.

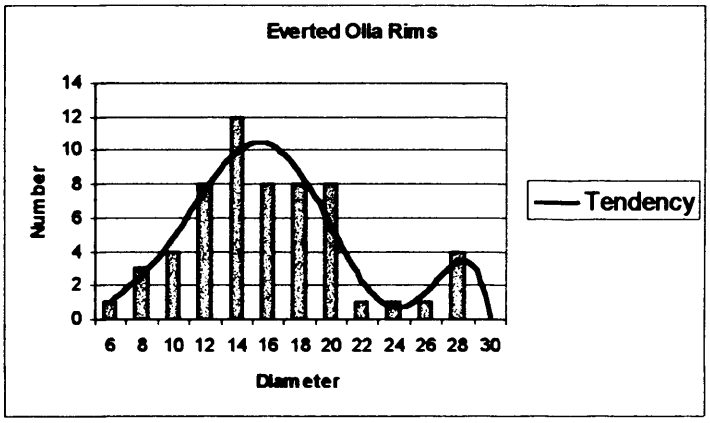

Fig. 7.13. Everted rims diameter distribution.

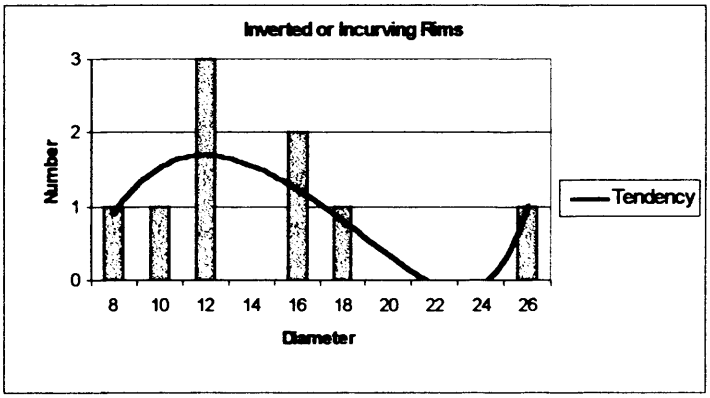

Fig. 7.14. Inverted or incurving rims diameter distribution.

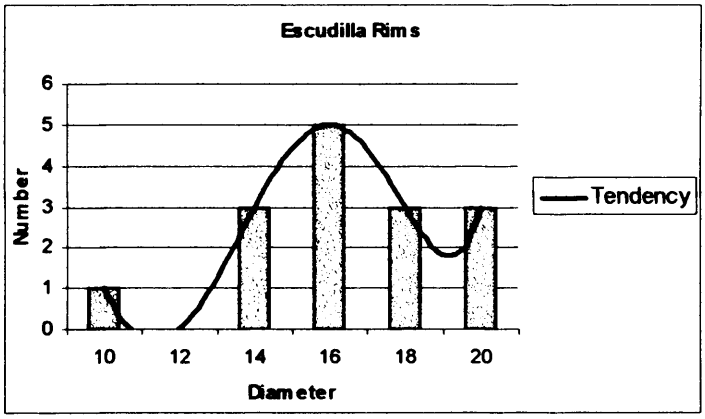

Fig. 7.15. *Escudilla* rim diameter distribution.

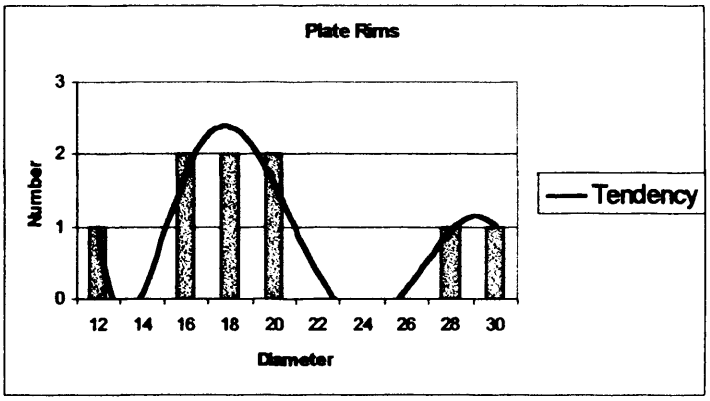

Fig. 7.16. Plate rim diameter distribution.

Average Sherd Thickness

The maximum and minimum thickness of every body and rim sherd were taken. Then an average of these two measures was calculated to work with a single variable. The average thickness measured anything from a minimum of 3 mm to a maximum of 20.5 mm for all the sherds. The mode or the most common average thickness was 7.25 mm. When broken down by level, there was a minimal variation of thickness, nearing the quarter of a millimetre, therefore negligible. This is a perfect example of the case when a mode has cultural significance, but not necessarily a temporal one (Lathrap 1962:50). Most probably an average thickness of 7.25 mm. was a conscious effort of the potters, but it shows no diachronic variation and it is therefore useless to flesh out time from the sample.

Relating the average thickness mode to several other modes was attempted, but the result was always the same, a unimodal curve. Average thickness was compared against red slipped, unslipped, open, and closed modes with equal results. The mode still was around the 7.25 mm. figure, as the crest of the curve always stood between 6 and 8 mm in average thickness.

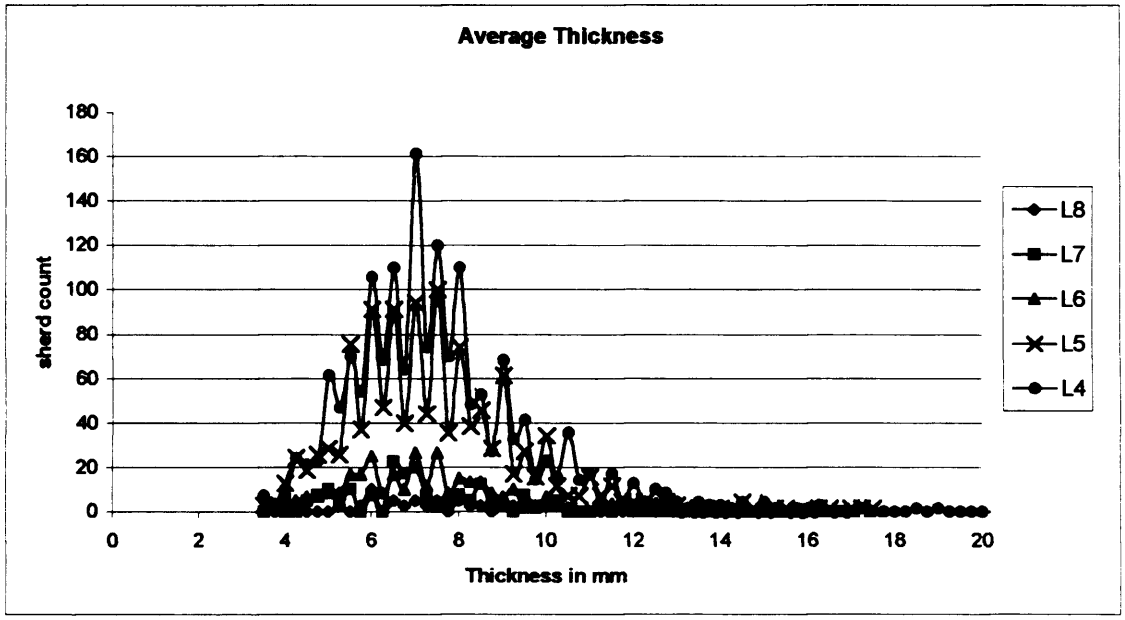

Fig. 7.17. Average sherd thickness by level for all sherds.

Handles and Bases

There were only two fragments found that could be identified as handles, both occurring in level 4. Both were red slipped and seemed like u-shaped handles that would be located near the rim of the vessel.

One fragment of a vessel base was found in level 5 that seemed like a ringed base. In level 4, five more base fragments appeared. Four of them belonged to pedestal bases, and one to what seemed to be the flat base of an *olla*.

Smoking (firing clouds)

Generally it can be observed in at least 1/3 of the exterior of the fragments. Smoking also presents three distinct occurrences, smoking outside, inside, and inside/outside. However smoking appears to be an unintentional consequence of the firing process, as the frequency of occurrence of the surfaces is very similar, all three fields of application showing more or less the same patterns, and almost the same frequencies. And if there is slightly more smoking on the outside, it is most likely due to the fact that this is the side that would have been in direct contact with fire. Smoking is present in all levels of the sample. It can be concluded then that smoking is not a mode.

Completely smudged fragments, where the glossy black appearance together with a blackened fully reduced paste was intentional were impossible to distinguish from accidentally smoked fragments, so smudging mode was not taken into account. There is one plate in the Patronato

Panamá Viejo collection that is fully smudged and has calcium filled incisions over the rim, found near Tumba 1.

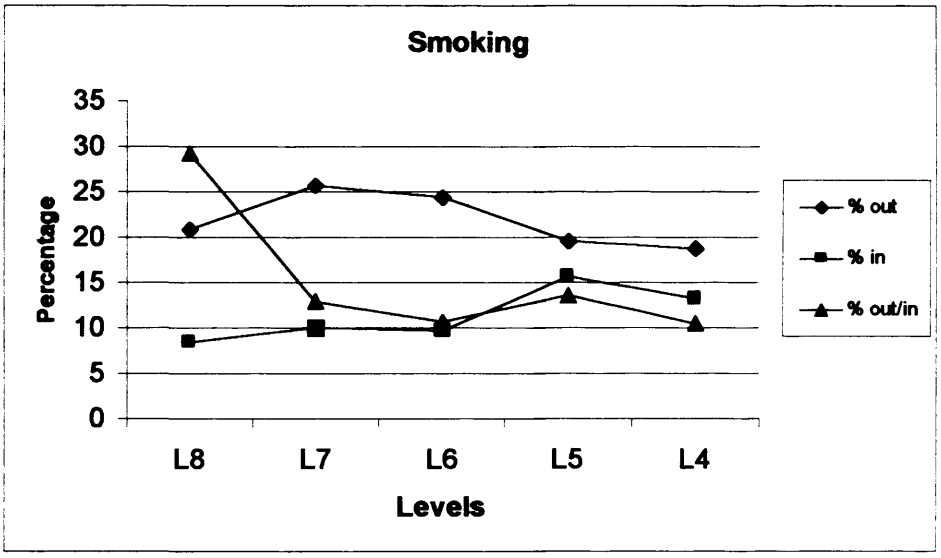

Fig. 7.18. Occurrence of smoking or fire clouds on the surface of sherds.

Erosion

Erosion is only a random, very rare occurrence, and it is not a mode. There are more eroded fragments on the upper levels, but this is simply due to there being more fragments above than below. As an attribute of the paste it could be a useful indicator of diachronic change – a temporal marker – however, in this case it is not. It could also be an indicator of environmental conditions of deposition, which in this case were apparently very good, as erosion is so rare.

	Clay		Morpholo gy		Surface Finish							Rims					
	Red	Whi te	Container		No Slip	Red Slip			White Slip								
Absolute			Closed	Open		ext	int	ext/int	ext	int	ext/int	Small Olla	Large Olla	Inv. Rim	Sm Pl.	Lr. Pl	Escu
Phase 2																	
Level 4, 5	1960	102	1921	121	1643	319	47	36	12	9	3	46	4	10	8	2	20
Phase 1																	
Level 6,7,8	272	19	274	14	228	41	11	6	2	1		8	3				3
Percentage %																	
Phase 2																	
Level 4, 5	95.3	4.96	93.39	5.88	79.87	15.51	2.28	1.75	0.58	0.44	0.15	51.11	4.44	11.11	8.8	2.22	22.2
Phase 1																	
Level 6,7,8	93.5	6.53	94.16	4.81	78.35	14.09	3.78	2.06	0.69	0.34		57.14	21.43				21.4

Table 7.2. Modes plotted in time. Absolute number of occurrences and percentages.

	Paint									Other	
	Red			Black			White				
Absolute	ext	int	ext/int	ext	int	ext/int	ext	int	ext/int	Handles	Bases
Phase 2											
Level 4, 5	1			6	2			1		2	6
Phase 1											
Level 6,7,8									1		
Percentage %											
Phase 2											
Level 4, 5				0.3						0.097	0.292
Phase 1											
Level 6,7,8									0.34		

Table 7.3. Continuation of previous table.

	Non-modal Attributes												
	Polishing			Smoking			Paste		Firing			Eroded	
Absolute	ext	int	ext/int	ext	int	ext/int	Compact	Friable	Full Oxidation	Incomplete Ox.	Full Reduction	ext	int
Phase 2													
Level 4, 5	1273	33	158	393	293	243	2004	57	623	1372	67	40	98
Phase 1													
Level 6,7,8	174	6	27	71	28	37	281	10	87	196	8	8	20
Percentage %													
Phase 2													
Level 4, 5	61.89	1.6	7.681	19.1	14	11.81	97.42	2.77	30.29	66.70	3.26	1.94	4.76
Phase 1													
Level 6,7,8	59.79	2.1	9.278	24.4	9.6	12.71	96.56	3.44	29.90	67.35	2.75	2.75	6.87

Table 7.4. Non-modal attributes.

Diachronic Modal Variation

To obtain more meaningful temporal divisions than the arbitrary stratigraphic levels already established it is necessary to follow each mode diachronically (see tables 7.2., 7.3. and 7.4.). In this manner the continuities and discontinuities within dimensions and their modes will become

apparent, and these will in turn be the bases to elaborate culturally meaningful temporal divisions. Because the modes are the minimal unit of meaningful behaviour they should provide the most sensitive temporal scale available, that is, diachronic change at the individual modal level. A type clusters attributes, so measuring time with types results in a potential loss of temporal resolution. However, not only modes can be used in constructing time, but also all the other ceramic attributes, for these (non-modal) attributes may have temporal significance (as Lathrap noted by devising the concept of "ceramic features"). After weighing all the different possibilities and explanations, separate blocks or phases of time can be worked out from the variation at hand.

The diachronic variation detected will help to trace the history of the ceramics deposited in the Plaza. The results of the analysis could then be tentatively extrapolated to apply to the site in general. The next logical step would be to judge how the local ceramic history would fit into the general history of the Eastern Region.

It is interesting that a useful way to follow this temporal variation is in tracing change in the least represented modes. Very popular modes such as unslipped appearance, reddish paste, or closed vessel shape may not be helpful, as they are present in all levels and their relative frequencies change only minimally. But the least popular modes, such as painted decoration, white slipping, red slip inside and inside/outside, *escudilla* and plate rims, handles, and so on, can be useful temporal indicators. They appear suddenly through the levels, for reasons that could be thought of as cultural or behavioural, not random occurrence.

Overall, the ceramic assemblage does not present much vertical or temporal variation. It seems rather homogeneous, with little change appreciated through the levels, except in some cases which will be discussed in detail below. Continuity seems to be the hallmark in this case. Of course, this can mean only one of two things: either little change due to some unknown social mechanism over a long time span in which the deposit formed; or a relatively short time of formation for the midden with the consequential lack of noticeable change. The former proposition seems to be the more accurate, given the absolute dates from the burials and pottery sherds, which cover a span of at least 400 years of human use of the area of the Plaza.

Following the modal development, two discrete temporal units become apparent, the justification of which is explained below. Levels 8, 7 and 6 would form one early phase, and levels 5 and 4 would be the second and latest phase of occupation or use of this part of the site (see Tables 7.2., 7.3. and 7.4.).

Phase 1

Phase 1, includes levels 8, 7 and 6. Formal variability is restricted to a majority of closed vessels probably represented by small rimmed *ollas*. Level 8 most probably represents material from

level 7 that has migrated downwards by the process of mass wasting, as the matrix of level 8 was constituted by the "white sand". There is no significant modal variation in these levels due to the small number of sherds, thus they were all grouped into a single temporal phase.

Both phases are characterised by these most popular modes: reddish paste, incompletely oxidised, compact paste, closed vessels, with an unslipped, polished and smoked surface; everted rims that are sometimes red slipped inside; smaller closed vessels with a red coloured outer surface (either through burnishing or red slipping). Whitish paste is introduced in phase 1 but in low frequencies, and there is one fragment with white paint on both surfaces of the vessel.

Phase 2

This phase is represented by levels 5 and 4 and the appearance of the largest modal variation. Sherd frequency more than doubles from that of phase 1. Also, new modes enter the sample: inverted rims, plate rims, black and red paint. More importantly, the overall frequency of *olla* rims decreases by more than 15%, in part because of the appearance of other kinds of rim in the assemblage. This fluctuation in frequency and the new modes warrant the creation of a separate temporal phase.

The most noticeable change is the appearance of the incurving rim, which could belong to an *olla* or an urn. In the previous phase everted *olla* rims are found but no incurving ones, so the latter become an excellent temporal marker. Also, plate rims make their appearance for the first time as well yet in very low numbers. Red paint occurs once, together with black paint, and there is one case of white paint. And white slip out/in is also introduced. Other additions to the sample are handles, two of which are found during this phase.

As in the previous phase, the most popular modes are: reddish paste, compact paste, closed vessels, polishing in both surfaces, unslipped or exterior red slip. They would represent the most frequently manufactured, used and disposed pottery among the local inhabitants. Any occupation levels beyond phase 2 could have been erased by later Colonial building activity, as evidenced by Colonial ceramics found in level 4 and intrusions from later activities.

The date obtained from level 5, falls in the range of Group 2 dates, with an average date range of AD 980 – 1020. Phase 2 lies possibly near cal AD 1100 - 1300, as dates from this phase fall in groups 2 and 3 of the absolute dates (see Tables 5.4. and 5.5), that is between cal AD 980 – 1020 and AD 1190 – 1280.

Sample Size

The size of the Plaza sample excavated through arbitrary stratigraphic levels is rather limited. There are objections to building a chronology out of a sample of only 2300 sherds, which could skew any conclusions obtained. Simultaneously, there is also the everlasting debate as to what is an appropriate sample size. Out of a 28-hectare site such as Panamá Viejo, with possibly millions of pottery sherds in the strata, what would be an appropriate sample size? Nevertheless, to strengthen the argument of the diachronic segmentation built in this chapter, the analysis of the 1998 survey sample, with almost 10,000 registered sherds, shall be included in this section to compare against the 2300 sherds of the 1999 survey.

The 1998 survey, as said in chapter 5, was carried out using natural stratigraphy, not arbitrary levels, due to schedule limitations. This excavation followed the different colours or consistencies of the strata to try to obtain a rough chronological order of deposition. Thus three basic levels were observed:

a) Modern deposition levels, laid down during Colonial and post-Colonial times.
b) Precolumbian activity levels, of which there are three, two at least in the dark sand, and one in the white sand. There were places in which the dark sand was deeper or shallower than 50 cm, unlike in the survey for this dissertation.
c) Coquina, sterile level.

Thus the tables that follow contain the summarised results of the pottery from the 1998 survey. Within this table, the 'sand 1' level is roughly equivalent to levels 4, 5 and 6 of the stratigraphy for this dissertation. In a way, the results from the 1999 survey could be seen as a sample out of the larger sample of the 1998 survey, obtaining a micro-chronology of the larger Plaza sample, just as this latter one can beget a micro-chronology out of any larger unit such as the site itself.

Absolute Numbers

Level	115N 100E	115N 105E	115N 110E	115N 115E	115N 120E	115N 125E	115N 130E	115N 135E	115N 140E	115N 145E	115N 150E	115N 155E	115N 160E	Total
modern											35	1		103
modern		9				259					43		78	396
														2473
sand 2	84	2	19	10			53				715	38		1073
sand 3	2					43								45
arcilla														0
Total	**101**	**11**	**208**	**561**	**367**	**661**	**393**	**0**	**0**	**2**	**902**	**449**	**435**	**4090**

Level	110N 100E	110N 105E	110N 110E	110N 115E	110N 120E	110N 125E	110N 130E	110N 135E	110N 140E	110N 145E	110N 150E	110N 155E	110N 160E	Total
modern											10	0		10
modern											14	1		15
modern	1	13		26							23			83
														3332
sand 2			33	13	47	268	34		26			2		675
sand 3														0
coquina														0
Total	**24**	**23**	**80**	**232**	**219**	**2576**	**139**	**29**	**217**	**0**	**270**	**33**	**273**	**4115**

Level	105N 100E	105N 105E	105N 110E	105N 115E	105N 120E	105N 125E	105N 130E	105N 135E	105N 140E	105N 145E	105N 150E	105N 155E	105N 160E	Total
modern	8													8
modern	2													2
modern	1													1
modern	9		0				15							24
sand 2		4		7				44						183
sand 3														9
coquina														0
Total	**68**	**4**	**30**	**8**	**289**	**70**	**187**	**154**	**151**	**0**	**0**	**0**	**0**	**961**
													Grand Total	**9166**

Table 7.5. Absolute number of sherds in the pits of 1998 Plaza survey, and stratigraphical levels. The blue fill indicates the first Precolumbian dark sand activity level. Numbers in red indicate provenances from which the material could not be manually tallied at all for this dissertation, it is quoted from inventory sheet reports from 1998. Number in yellow fill indicates a provenance where the material was missing partially due to missing bags.

Level	100E	105E	110E	115E	120E	125E	130E	135E	140E	145E	150E	155E	160E	Total
modern	1	0	67	0	0	0	0	0	0	0	49	2	0	119
modern	10	22	0	26	7	259	15	0	0	0	66	4	94	503
sand 2	92	6	52	30	47	391	137	44	26	0	726	40	340	1931
sand 3	2	0	0	0	0	43	0	9	0	0	0	0	0	54
coquina	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**183**	**38**	**318**	**801**	**875**	**3307**	**719**	**183**	**368**	**2**	**1162**	**482**	**708**	**9146**

Table 7.6. Summary of the previous table, all the levels except the upper two modern levels, which together count 20 sherds.

	White Ware	Red Ware		Paint			Plastic Decoration	Rims						Total Rim	Total	Weight	gram/ sherd	Vol. m^3 excavation	Density sherd/ m^3
		Unslip	Red Slip	Black	White	B&W		Everted small 0-20	large 22-28	Inverted	Escudilla	Plate small	large						
Total	**54**	**5864**	**240**	**6**	**2**	**2**	**4**	**244**	**71**	**22**	**42**	**8**	**7**	**394**	**6566**	**69723**	**10.6**	**20.667**	**317.7**
Percentage	0.82%	89.31%	3.66%	0.09%	0.03%	0.03%	0.06%	61.93%	18.02%	5.58%	10.66%	2.03%	1.78%	6.00%					

Table 7.7. Modes present in the pottery sherds that were counted in 2002 for this dissertation from the 1998 Plaza Survey. Notice the minimal amounts of painted and plastic decoration.

Total Rims

	Sm. Everted	Lr. Everted	Inverted	Escudilla	Sm. Plate	Lr. Plate	Total
modern	11	3					14
[redacted]	154	47	15	22	5	3	246
sand 2	39	10	3	8	4	2	66
sand 3	1	1					2
coquina							0
total	205	61	18	30	9	5	328

Percentage

	Sm. Everted	Lr. Everted	Inverted	Escudilla	Sm. Plate	Lr. Plate
modern	78.57%	21.43%				
[redacted]	62.60%	19.11%	6.10%	8.94%	2.03%	1.22%
sand 2	59.09%	15.15%	4.55%	12.12%	6.06%	3.03%
sand 3	50.00%	50.00%				
coquina						
total	62.50%	18.60%	5.49%	9.15%	2.74%	1.52%

Table 7.8. Rim modes of pottery from the 1998 Plaza survey.

Levels	Total Sherds	Total Rims	%
1999 phase 2	2062	90	4.4%
1999 phase 1	291	14	4.8%
1998 sand 1	6539	246	3.8%
1998 sand 2	1931	66	3.4%
1998 sand 3	54	2	3.7%

Table 7.9. Rim frequency through the levels in 1998 and 1999 samples.

The archaeological material from the 1998 survey was tallied immediately following the excavation in inventory sheets for the Patronato Panamá Viejo. This preliminary classification showed a total of almost 9,200 sherds as seen in table 7.5., and recognised only differences in surface treatment, such as unslipped, red slipped, painted or plastic decorated sherds. However, when they were recounted for this dissertation, after years of storage and the relocation of the Patronato facilities, I was only able to physically find, and then manually recount and reclassify about 6500 sherds, as seen in table 7.7. The sherds from the 1996 excavations or the Brizuela excavations in 1998 were not included in this dissertation for the same reasons.

There are no differences in the diachronic layout of the most frequent modes from one sample to the other, no change in the percentages of 'unslipping', red slipping or vessel form, or any of the non-modal attributes (the results of a taxonomical organisation of this material were the same as those in chapter 6).

In the 1999 sample, plate and inverted rims only appear on the upper levels, phase 2. Everted and *escudilla* rims appear from phase 1, and there is a slight drop in everted rim frequency from phase 1 to 2, which does not appear in the larger 1998 sample due to the coarseness of the stratigraphy.

Of all the sherds of both samples, rims represent from 3 to 5% in every level, (Table 7.9.), which could be considered as a constant overall rim frequency. In the 1998 sample, all rim modes appear on the Precolumbian levels of deposition (sand 1 and sand2) in very similar frequencies, but on the 1999 sample they do not. The finer stratigraphy coupled with the constant rim percentage could thus be revealing that in phase 1, plate and inverted rims had the same probability of appearing as all the other rim modes, as was expected from observing the larger 1998 sample, yet they do not. Consequently, it is argued here that their absence is due to a definite diachronic difference between phase 1 and 2. *Escudilla* rims are almost as infrequent as inverted and plate rims, and painted decoration is even more (less than 1%), but both turn up in phase 1, so all things being equal, there should have been at least one inverted or plate rim in phase 1.

Thus, the smaller 1999 sample could be indicating a diachronic discontinuous modal change that would be invisible were it not for the use of arbitrary stratigraphy. The broader stratigraphical levels show a uniform distribution of the pottery, with very similar frequencies of modes through the levels, indicating a lack of change. Without the controlled arbitrary level excavations, these subtle changes would have gone unnoticed. With almost 500 years of occupation and use in the midden, it is very likely that some change would have been introduced if not in the modal vocabulary, at least in the depositional practice – that the deposition of inverted rimmed containers post-dates that of everted rimmed containers.

Both samples show very little painted or plastic decorated material. In the 1998 survey sample, out of almost 10,000 sherds there are only 4 plastic decorated sherds and only 10 painted sherds. Similar results are seen in the smaller 1999 survey sample, with no plastic decorated sherds and only 11 painted sherds out of 2300 sherds. These results are in sharp contrast to those from the coeval occupation of the Morelos site, where painted and plastic decoration are by far more frequent.

Summary

In phase 1, the deposition of pottery in the beach of Panamá Viejo began before around AD 1000, but definitively after AD 750 due to the complete absence of Incised Relief Brown Ware. The deposits slowly grew through the addition of natural (sand, earth) and cultural (pottery, burials) material from phase 1 to 2. The arrival of the Spaniards put an end to the deposition of more indigenous cultural material, and their constructions surely removed the upper layers of Precolumbian deposits[28]. Thus the midden was anthropogenically created from ca AD 1000 to the Contact Period, and the only changes detected in the pottery was the later introduction into this midden of the inverted rim and the plate rim (discontinuous change). Meaning not that these

forms were introduced at a later time into the ceramic vocabulary of the potters, rather that they were discarded in this midden at a later date than everted rimmed containers.

The appearance of new modes may be due to several reasons. The simplest is that they had not appeared before simply because there was not enough material for them to show up, even though they existed in the modal vocabulary of the potters, and they appear in subsequent levels because as more material accumulates, the more the probability that less popular modes will surface. The other reason, to which one is more inclined, could be that the division between both phases truly represents the later addition of these modes to the deposit, not the ceramic vocabulary. Considering that this deposit was at least 300 or 400 years in the making, from at least AD 1000 until European Contact, a temporal division is feasible here.

Another interpretation may be that the entire ceramic deposit formed in a relatively short period of time. That would leave the lower levels (8, 7 and 6) to represent just the material that has migrated down through the effects of gravity and bioturbation, and not human depositional activity (a sandy matrix is a very easy medium through which to migrate downwards). Thus these first three levels could be seen as a consequence of the upper two. However, there are two clues against this scenario. First, the exclusive presence of inverted rims in levels 5 and 4. They had the same potential for downward migration as everted rims which do appear in all levels, yet inverted rims are completely absent from the lower levels. One is inclined to accept the absence of incurving rims in the lower levels as a strong temporal indicator, and therefore to discard this last scenario.

The second line of evidence is the fact that in levels 6 and 7 the matrix was still composed of sand and earth, not the culturally sterile white sand below. This indicates a cultural process and not just the downward migration of artefacts. The matrix in level 8 is composed of white sand with a few ceramic sherds in it, so this is the only level where "mass wasting" (Rapp & Hill 1998:82), or downward movement of material, actually occurs, caused by natural factors and not by cultural deposition.

The historical construction was carried out taking into account the modes and the attributes such as firing clouds, paste hardness and firing, and erosion. Nevertheless, none of these non-modal attributes proved to have temporal significance. They showed no significant changes that would have helped in the construction of temporal phases. Perhaps in a sample with more diachronic depth, they would become useful temporal markers. In sum, although they did not help on this occasion it does not mean that they should be discarded for all cases. They should remain theoretically available for other temporal constructions in other samples.

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[28] Tumba 2 and Tumba 4 were found at barely 5 cm. below the surface, and one cannot imagine the Precolumbian

In the next chapter the modal clusters discussed in chapter 2 shall be built, to eventually form modal "types" to compare against the types built in the taxonomical method, to have two different chronologies of Panamá Viejo. The relationship between this sample and Biese's, and the rest of the Eastern Region's pottery assemblages will also be discussed.

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inhabitants interring their deceased in such shallow, easily disturbed graves.

Chapter 8
Synthesis of Taxonomical and Analytical Classifications

Introduction

A temporal construction based on modes and other attributes rather than solely on types will reveal a thinner diachronic scale. Nevertheless, archaeologists are not only after the construction of time, but also after the explanation of cultural processes, and chronology building and cultural content description are but the first steps towards archaeological explanations or interpretations. A chronology produces a framework in which to order these processes but it does not actually describe or explain them. Thus a classification of the material from the modal analysis would be the necessary tool to synthesise the available modal cultural variability, at every temporal phase.

The taxonomical and modal methods are not necessarily mutually exclusive, instead they can be complementary. It is advocated here that the best way to completely describe and analyse a ceramic sample would be a combination of the best qualities of both methods (Sabloff and Smith 1969; Whallon 1972; Beaudry-Corbett et al. 1993:3). Step 1 of this process is the modal analysis of the sample, to build the basic temporal scale and framework, a micro-chronology. Step 2 is where the ordering power of the taxonomical analysis comes to use with the construction of types and varieties, not from arbitrarily clustered types, but from the statistically validated modal clusters, to help synthesise and integrate all the information into useful and understandable units. It would clarify the organisation of a potentially confusing large amount of modes.

These types achieved through the modal cluster, or "modal types", would then be placed on the temporal framework already built in step 1 and used to study different synchronic as well as diachronic cultural phenomena. The third and last step would be to include the types into larger units of integration like ware, or ceramic complex or spheres for inter-site or regional studies, also using a taxonomical-like method, to group similar types into these larger units of integration. It may also be of interest to follow the development of a single mode through time and space over a wide region, and it is not always mandatory or desirable to create these larger units of integration from a modal cluster.

Therefore this chapter will see an attempt to use the strengths of both methods in the process described above. The typology will be based on types and varieties built from modal clusters. This approach, advocated by several authors and already discussed, is, one would think, as close as one can come to an absolute description in space and time of the cultural content of a ceramic assemblage. Armed with this "modal typology" and the AMS dates, the pottery from excavations in Panamá Viejo will be compared with the rest of the assemblages of the Eastern Region, and to some extent those of the surrounding Intermediate Area, in an attempt to rework the chronology of Panamá Viejo and the Region.

Modal Clusters

After all the modes have been listed and annotated, the second step is to arrange them into manageable modal clusters instead of handling them all separately. It is possible to flesh out time and construct a chronology by using all the modes and other attributes separately as seen in chapter 7. However the individual modes are not very helpful in achieving a synchronic picture of the material. The modal cluster, which can be equated or used in a similar manner to the term "type", has the advantage of being constructed from statistically significant modal co-occurrences or combinations, and not the whim of the archaeologist.

A modal cluster is achieved through studying the material and mathematically fleshing out all the combinations of modes along the different dimensions, from the most frequent to the most rare, in order to account for all available variability. These statistically achieved modal clusters, can then be considered as "types", which could then be inserted into the modally achieved chronological phases, and used for larger and larger units of integration of the pottery material for broader inter-site or inter-regional studies, spanning longer and longer periods of time.

Obviously, only the modes will be used to achieve the modal clusters, and thus a supposedly more "cultural real" or "emic" classification. Non-modal pottery attributes, although created by a particular culture and are therefore culturally created, are unintended by-products of this creation. They may have meaning for us, shedding light on various topics – technology, environment, etc. – , but they are useless when it comes to an "emic" classification.

Panamá Viejo Modal Clusters

According to Cowgill (1982:31), there are two main approaches to establishing clusters of attributes: to seek associations between attributes, mainly through the use of the chi-square technique; or using complex object clustering techniques based on similarity coefficients and other correlation measurements, to reduce multidimensional variability into a few manageable, visually understandable dimensions. The latter approaches, which include several techniques, seem to be more appropriate when dealing with complex assemblages, with a multitude of variables, and there are several computer-aided techniques to work this out, such as principal component analysis and other multivariate techniques (Whallon and Brown 1982; Shennan 1997 are two among legion). Given that the present assemblage is relatively simple and that only a reduced number of variables can effectively be studied, the former approach shall be used, the chi-square measure of statistical significance and the related measures of the strength of the relationships (Stephen Shennan, Kris Lockyear, personal communication 2002)[29]. After reviewing

[29] Cowgill states that "for pairs of nominal variables with some values much more frequent than others, the variable-association approach is distinctly preferable". This is the case in this sample where, for example, the red paste outnumbers the white paste by a wide margin (1982:47).

much of the literature on statistical approaches it seems clear that there is no quick-recipe for the classification of pottery, that each method has advantages and disadvantages and that they suit different problems (Whallon 1972; Whallon and Brown 1982; Drennan 1996; Shennan 1997 among many). Each assemblage should be judged individually to see what method suits it and the intentions of the researcher best.

The modes along only three dimensions were used: colour of paste (red or white), form of sherd (closed or open) and decoration (absence of slip, red slip and white slip). All the sherds must present at least one mode from all these three dimensions to exist (they need to have a paste, a shape and must be either decorated or undecorated). As other modes such as rim shape and diameter, or presence of paint were only exhibited by a very few sherds, it was decided to leave them out of the main classification.

The clusters are all the possible combinations of these three dimensions and the seven modes listed within them. The fact is that the twelve possible combinations of these modes do occur. However, some modal clusters occur more frequently than others, and more importantly, the strength of the relationship between the different variables of a cluster are stronger in some (they cluster) than in others. In other words, the modes in some clusters are statistically more strongly related to each other than those in other clusters. As will be seen, the strength of relationship within some clusters is very strong and in others it is negligible. There are also a few instances where a combination of modes in one dimension occurred, as in sherds with two types of slipping or two types of paint. They were so few that they were not included in the calculations.

Possible Modal Combinations	Phase 2	Phase 1
Reddish Paste Closed Unslipped	1505	211
Reddish Paste Closed Red Slipped	308	44
Reddish Paste Closed White Slipped	16	2
Reddish Paste Open Unslipped	58	5
Reddish Paste Open Red Slipped	42	3
Reddish Paste Open White Slipped	5	0
Whitish Paste Closed Unslipped	53	8
Whitish Paste Closed Red Slipped	33	5
Whitish Paste Closed White Slipped	2	0
Whitish Paste Open Unslipped	1	0
Whitish Paste Open Red Slipped	11	5
Whitish Paste Open White Slipped	2	1
	2036	284

Possible Modal Combinations	Phase 2	Phase 1
Reddish Paste Closed Unslipped	73.92	74.30
Reddish Paste Closed Red Slipped	15.13	15.49
Reddish Paste Closed White Slipped	0.79	0.70
Reddish Paste Open Unslipped	2.85	1.76
Reddish Paste Open Red Slipped	2.06	1.06
Reddish Paste Open White Slipped	0.25	0.00
Whitish Paste Closed Unslipped	2.60	2.82
Whitish Paste Closed Red Slipped	1.62	1.76
Whitish Paste Closed White Slipped	0.10	0.00
Whitish Paste Open Unslipped	0.05	0.00
Whitish Paste Open Red Slipped	0.54	1.76
Whitish Paste Open White Slipped	0.10	0.35
	100.00	100.00

Table 8.1. All the possible modal combinations of the chosen dimensions. All sherds must have one mode from each dimension. The modes in paste colour and vessel shape dimensions are mutually exclusive, while the modes for decoration are not because a sherd or vessel can be partially slipped and unslipped, or can also show combinations of red and white slipping on the same sherd. For clarity purposes these latter combinations are not shown. Table on the left is expressed in absolute numbers, and on the right in percentages.

As a first step the dimensions were paired off against each other in contingency tables, phase by phase, to see the relationships (see Tables 8.2. and 8.3.). That is a pairing of paste colour vs. shape, paste colour vs. decoration, and shape vs. decoration. In all the levels the relationships

were statistically very significant (very high chi-square values and low p values)[30]. One reason could be that these relationships must exist for a pot to be made, so a given paste colour must have a shape, and be either decorated or not. Furthermore, it also became apparent that in phase 1, the strongest relationship was that between paste colour and shape, while in phase 2 the stronger relationship is that between shape and decoration. This may be due to the fact that in the earlier phase decoration of the vessels does not occur very frequently, while it becomes more frequent in the later phase, which would create this difference due to the effect of sample size. The colour or composition of the paste does not affect the shape of the vessels, while the shape of the vessels does affect the decoration, because most closed (restricted) vessels are unslipped, while most open (unrestricted) vessels present some kind of slip. This is why field of application modes were not used, because they proved to be intimately related to the shape of the vessel. That is, open vessels tend to have decoration inside, and closed vessels are decorated outside, a necessarily strong relationship.

Then all the modes were paired off, one dimension at a time, again phase by phase (see Table 8.4. through Table 8.6. for example). In other words, the assemblage was split into red and white paste sherds, and within each category the relationship between the modes of vessel shape and decoration were worked out. The same procedure followed with vessel shape, splitting the assemblage between closed and open vessels and seeing how paste colour and decoration related to each other. And then with decoration, split first between presence or absence of slip, and then between unslipping, red and white slip, pairing off paste colour against shape in both divisions.

The variable-association analysis revealed very little structure within the assemblage, in both phases. All the modal combinations occurred at least once, and the difference between observed and expected values was negligible in most. As seen in the tables, the most statistically significant, and strongest relationships were those occurring when the assemblage was divided into paste colour. That is, there was a strong relationship between shape and decoration within the red and white coloured pastes. This is indeed a causal relationship, since closed vessels tend not to be slipped, and anyway have fewer surfaces for slipping, while open vessels offer more surface area for decoration and tend to be slipped.

There are also fairly significant and just as strong relationships when the assemblage is divided by shape, that is, paste colour and decoration are strongly associated within the vessel shape categories. This is another causal relationship, because paste colour affects surface colour and therefore the decoration. Most red paste vessels were left unslipped probably because they already offer a red coloured surface. White paste vessels were more prone to be red slipped

[30] To measure the strength of the relationships the phi-square value was used, which is arrived at by, in a 2 x 2 contingency table, dividing the chi-square value between the *n* number of individuals or sherds in this case, and also Yule's Q for comparative purposes (see Shennan 1997:115-118).

because when left unslipped they present a whitish appearance. This is assuming that a reddish appearance was the preference among the potters, and this seems to be the case. White slip was a very infrequent choice of the potters, as well as further painting over the slipped or unslipped surface.

Thus it would seem the assemblage could be divided in two main categories, vessels with a red coloured paste, and those with a white coloured paste. Within these groups however, it would also seem that the shape of the vessel has a strong influence in whether or not it is decorated, as there are some strong tendencies to apply slip to open vessels, and to avoid leaving them unslipped. The assemblage could be then split into 4 main types:

1. Red Paste Closed Type
2. Red Paste Open Type
3. White Paste Closed Type
4. White Paste Open Type

Each of these types would have three varieties: Unslipped, Red Slipped and White Slipped. These varieties can also be combined on the same vessel, and also present paint, but these variants are very rare (Fig 8.5.). It becomes apparent then, that the potters of Panamá Viejo had a lot of freedom when practising their craft. No obvious strict rules to follow are apparent, apart from those dictated by practical considerations, like the impossibility of decorating the inside of a closed pot. Even when some combinations were much more popular than others – such as red paste restricted unslipped vessels over white paste unrestricted white slipped vessels – they could very much do as they pleased with the material. Also, there is hardly any change in the relationships detected through time as the four main types appear in all levels, and the only discontinuous variation appears in the varieties.

	C	O			
R	1833	107	1940		
W	88	14	102		
	1921	121	2042	0.000619	p
				11.71795	chi2
	1825.044	114.96		0.005738	phi2
	95.95593	6.0441		0.463139	Q

	Unslip	Slip			
R	1582	375	1957		
W	54	48	102		
	1636	423	2059	1.06E-11	p
				#¡NUM!	chi2
	1554.955	402.05		#¡NUM!	phi2
	81.04517	20.955		0.578941	Q

	Unslip	Slip			
C	1562	358	1920		
O	59	60	119		
	1621	418	2039	7.97E-17	p
				69.416	chi2
	1526.395	393.6		0.034	phi2
	94.60471	24.395		0.632155	Q

	C	O			
R	261	8	269		
W	13	6	19		
	274	14	288	2.1E-08	p
				#¡NUM!	chi2
	256	13.08		#¡NUM!	phi2
	18.1	0.924		0.87545	Q

	Unslip	Slip			
R	217	49	266		
W	8	11	19		
	225	60	285	4.6E-05	p
				16.625	chi2
	210	56		0.0583	phi2
	15	4		0.71788	Q

	Unslip	Slip			
C	219	51	270		
O	5	9	14		
	224	60	284	5E-05	p
				16.461	chi2
	213	57.04		0.058	phi2
	11	2.958		0.77089	Q

Table 8.2. Contingency Tables of Dimensions of pottery with their variables. Phase 2 (left) and Phase 1 (right); R = Red Paste; W = White Paste; C = Closed Vessel; O = Open Vessel; Unslip = No Decoration; Slip = Decoration. The #!NUM! denotes a chi2 value so high that it is impossible for Microsoft Excel to calculate.

Paste colour	Unslip	Slip				Unslip	Slip			
RC	1722	367	2089		WC	61	40	101		
RO	65	42	107		WO	1	17	18		
	1787	409	2196	1.9E-08 p		62	57	119	1.8E-05 p	
				31.5784 chi2					18.393 chi2	
	1700	389.07		0.01438 phi2		52.62	48.378		0.15456 phi2	
	87.07	19.929		0.50395 Q		9.378	8.6218		0.92572 Q	

Paste colour	Unslip	RS	WS				Unslip	RS	WS			
RC	1722	353	18	2093		WC	61	38	2	101		
RO	65	50	4	119		WO	1	18	2	21		
	1787	403	22	2212	4.6E-13 p		62	56	4	122	1.4E-05 p	
					56.8361 chi2						22.3547 chi2	
exp	1691	381.3	20.816		0.02569 phi2	exp	51.33	46.361	3.31		0.18324 phi2	
	96.14	21.68	1.1835				10.67	9.6393	0.69			

Shape	Unslip	Slip				Unslip	Slip			
RC	1722	367	2089		RO	65	42	107		
WC	61	40	101		WO	1	17	18		
	1783	407	2190	2.7E-08 p		66	59	125	1.4E-05 p	
				30.9182 chi2					18.8078 chi2	
	1701	388.23		0.01412 phi2		56.5	50.504		0.15046 phi2	
	82.23	18.77		0.50942 Q		9.504	8.496		0.92677 Q	

Shape	Unslip	RS	WS				Unslip	RS	WS			
RC	1722	353	18	2093		RO	65	50	4	119		
WC	61	38	2	101		WO	1	18	2	21		
	1783	391	20	2194	2.6E-07 p		66	68	6	140	0.00012 p	
					30.2975 chi2						18.0152 chi2	
exp	1701	373	19.079		0.01381 phi2	exp	56.1	57.8	5.1		0.12868 phi2	
	82.08	18	0.9207				9.9	10.2	0.9			

Slipping	C	O				C	O			
RU	1722	65	1787		R-Slip	367	42	409		
WU	61	1	62		W-Slip	40	17	57		
	1783	66	1849	0.39829 p		407	59	466	3E-05 p	
				0.71348 chi2					17.29 chi2	
	1723	63.79		0.00039 phi2		357.22	51.78		0.037 phi2	
	59.79	2.213		-0.3944 Q		49.783	7.217		0.576 Q	

	C	O				C	O			
RSR	353	50	403		WSR	18	4	22		
RSW	38	18	56		WSW	2	2	4		
	391	68	459	9.8E-05		20	6	26	0.165	
				15.1705 chi2					1.93 chi2	
	343.3	59.7		0.03305 phi2		16.923	5.077		0.074 phi2	
	47.7	8.296		0.53962 Q		3.0769	0.923		0.636 Q	

Table 8.3. Modal combinations for all sherds and both phases. R = Red paste; W = White paste; C = Closed shape; O = Open shape; Unslip = Unslipped; RS = Red slip; WS = White slip; exp = expected numbers; Q = Yule's Q measure of association.

Paste colour		Unslip	Slip					Unslip	Slip		
	RC	1505	322	1827			WC	53	35	88	
	RO	58	49	107			WO	1	13	14	
		1563	371	1934	6.3E-13	p		54	48	102	0.00022 p
					51.7387	chi2					13.6618 chi2
	exp	1477	350.47		0.02675	phi2	exp	46.5882	41.412		0.13394 phi2
		86.47	20.526		0.59585	Q		7.41176	6.5882		0.90331 Q

Paste colour		Unslip	RS	WS				Unslip	RS	WS		
	RC	1505	309	16	1830		WC	53	33	2	88	
	RO	58	47	4	109		WO	1	12	1	14	
		1563	356	20	1939	4E-13 p		54	45	3	102	0.00102 p
						57.11 chi2						13.7674 chi2
	exp	1475	336	18.876		0.02945 phi2	exp	46.58824	38.8235	2.5882		0.13497 phi2
		87.86	20.01	1.1243				7.411765	6.17647	0.4118		

Shape		Unslip	Slip					Unslip	Slip		
	RC	1505	322	1827			RO	58	49	107	
	WC	53	35	88			WO	1	13	14	
		1558	357	1915	1.9E-07	p		59	62	121	0.00092 p
					#¡NUM!	chi2					10.9753 chi2
	exp	1486	340.59		#¡NUM!	phi2	exp	52.1736	54.826		0.0907 phi2
		71.59	16.405		0.51059	Q		6.82645	7.1736		0.87796 Q

Shape		Unslip	RS	WS				Unslip	RS	WS		
	RC	1505	309	16	1830		RO	58	47	4	109	
	WC	53	33	2	88		WO	1	12	1	14	
		1558	342	18	1918	1.5E-06 p		59	59	5	123	0.00512 p
						26.7691 chi2						10.5499 chi2
	exp	1487	326.3	17.174		0.01396 phi2	exp	52.28455	52.2846	4.4309		0.08577 phi2
		71.48	15.69	0.8259				6.715447	6.71545	0.5691		

Slipping		C	O					C	O		
	RU	1505	58	1563			R-Slip	322	49	371	
	WU	53	1	54			W-Slip	35	13	48	
		1558	59	1617	0.4738	p		357	62	419	0.011 p
					0.5131	chi2					6.491 chi2
	exp	1506	57.03		0.0003	phi2	exp	316.1	54.89737		0.015 phi2
		52.03	1.97		-0.3427	Q		40.897	7.102625		0.419 Q

		C	O					C	O		
	RSR	309	47	356			WSR	16	4	20	
	RSW	33	12	45			WSW	2	1	3	
		342	59	401	0.0163	p		18	5	23	0.602 p
					5.7717	chi2					0.273 chi2
	exp	303.6	52.38		0.0144	phi2	exp	15.652	4.347826		0.012 phi2
		38.38	6.621		0.4102	Q		2.3478	0.652174		0.333 Q

Table 8.4. Phase 2 modal combinations. R = Red paste; W = White paste; C = Closed shape; O = Open shape; Unslip = Unslipped; RS = Red slip; WS = White slip; exp = expected numbers; Q = Yule's Q measure of association. The #!NUM! denotes a chi2 value so high that it is impossible for Microsoft Excel to calculate.

Paste colour	Unslip	Slip			
RC	211	46	257		
RO	5	3	8		
	216	49	265	0.1596	p
				1.9778	chi2
exp	209.5	47.521		0.0075	phi2
	6.521	1.4792		0.467	Q

	Unslip	Slip			
WC	8	5	13		
WO	0	6	6		
	8	11	19	0.01156	p
				6.37765	chi2
exp	5.474	7.526		0.33567	phi2
	2.526	3.474		1	Q

Paste colour	Unslip	RS	WS			
RC	138	35	2	175		
RO	3	2	0	5		
	141	37	2	180	0.5423	p
					1.2238	chi2
exp	137.1	35.97	1.9444		0.0068	phi2
	3.917	1.028	0.0556			

	Unslip	RS	WS			
WC	5	3	0	8		
WO	0	4	1	5		
	5	7	1	13	0.05622	p
					5.75714	chi2
exp	3.077	4.308	0.62		0.44286	phi2
	1.923	2.692	0.38			

Shape	Unslip	Slip			
RC	211	46	257		
WC	8	5	13		
	219	51	270	0.0646	p
				3.415	chi2
exp	208.5	48.544		0.0126	phi2
	10.54	2.4556		0.4828	Q

	Unslip	Slip			
RO	5	3	8		
WO	0	6	6		
	5	9	14	0.01573	p
				5.83336	chi2
exp	2.857	5.143		0.41667	phi2
	2.143	3.857		1	Q

Shape	Unslip	RS	WS			
RC	138	35	2	175		
WC	5	3	0	8		
	143	38	2	183	0.4767	p
					1.4817	chi2
exp	136.7	36.34	1.9126		0.0081	phi2
	6.251	1.661	0.0874			

	Unslip	RS	WS			
RO	3	2	0	5		
WO	0	4	1	5		
	3	6	1	10	0.09697	p
					4.66666	chi2
exp	1.5	3	0.5		0.46667	phi2
	1.5	3	0.5			

Slipping	C	O			
RU	211	5	216		
WU	8	0	8		
	219	5	224	0.663	p
				0.189	chi2
exp	211.2	4.821		8E-04	phi2
	7.821	0.179		-1	Q

	C	O			
R-Slip	46	3	49		
W-Slip	5	7	12		
	51	10	61	0	p
				19.2	chi2
exp	40.97	8.033		0.31	phi2
	10.03	1.967		0.91	Q

	C	O			
RSR	35	2	37		
RSW	3	4	7		
	38	6	44	3E-04	p
				13.38	chi2
exp	31.95	5.045		0.304	phi2
	6.045	0.955		0.918	Q

	C	O			
WSR	2	0	2		
WSW	0	1	1		
	2	1	3	0.08326	p
				3	chi2
exp	1.333	0.667		1	phi2
	0.667	0.333		1	Q

Table 8.5. Phase 1 modal combinations. R = Red paste; W = White paste; C = Closed shape; O = Open shape; Unslip = Unslipped; RS = Red slip; WS = White slip; exp = expected numbers; Q = Yule's Q measure of association.

Modal Clusters Chronology

Having obtained the modal clusters or modal types-varieties they can be placed in the temporal framework established in chapter 7. By this means their diachronic development will become apparent. As is evidenced in the following tables, the results are the same as those obtained in the taxonomical analysis. There are no bases for creating separate temporal phases when clustering the modes, as there are no discernible, significant formal changes in the pottery, qualitative or quantitative.

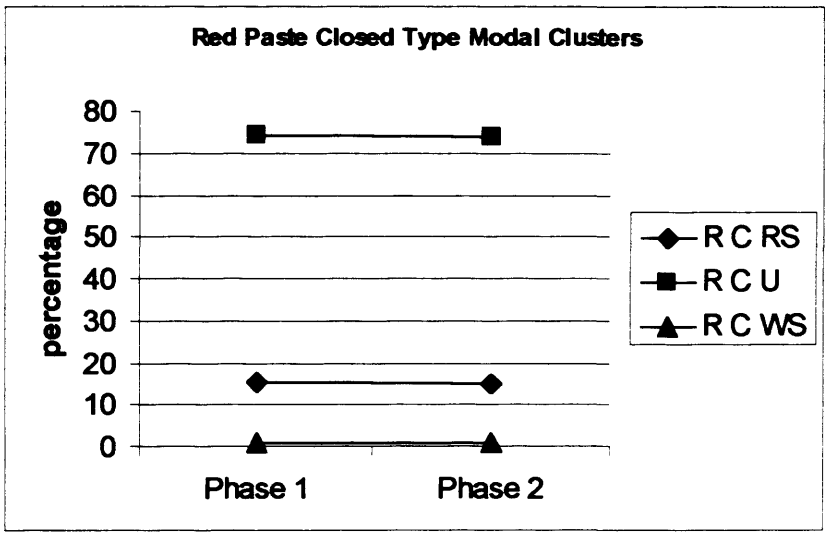

Fig. 8.1. Red Paste Closed Type, Unslipped, Red and White Slipped Varieties. R = Red; C = Closed; U = Unslipped; RS = Red Slipped; WS = White Slipped.

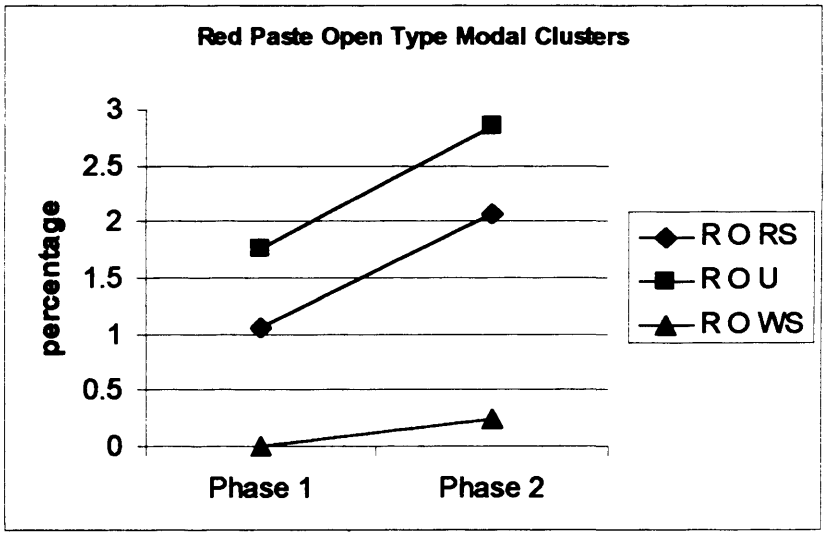

Fig. 8.2. Red Paste Open Type, Unslipped, Red and White Slipped Varieties. R = Red; O = Open; U = Unslipped; RS = Red Slipped; WS = White Slipped.

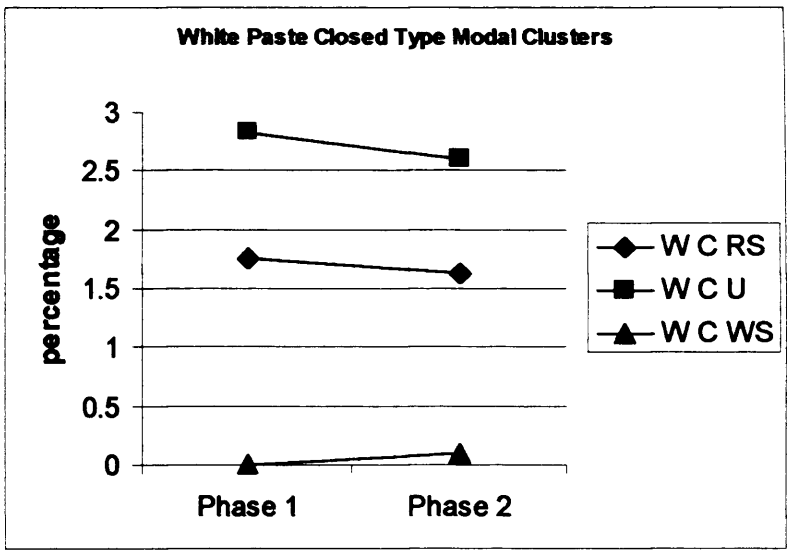

Fig. 8.3. White Paste Closed Type, Unslipped, Red and White Slipped Varieties. W = White; C = Closed; U = Unslipped; RS = Red Slipped; WS = White Slipped.

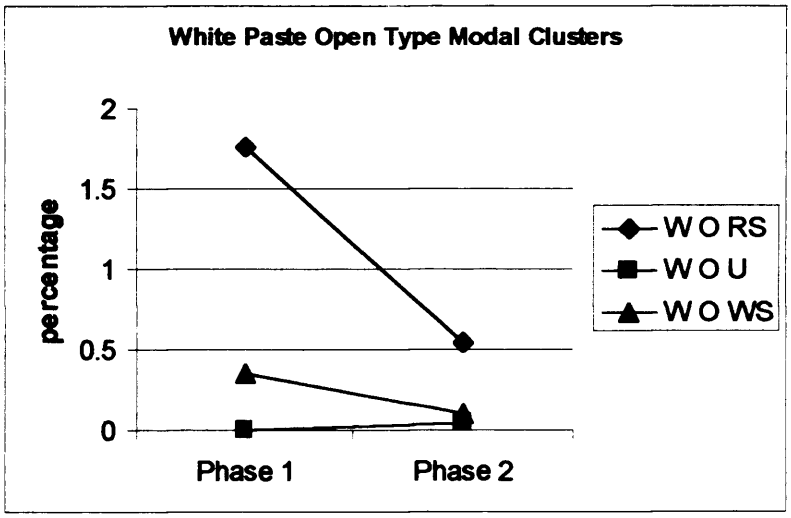

Fig. 8.4. White Paste Open Type, Unslipped, Red and White Slipped Varieties. W = White; O = Open; U = Unslipped; RS = Red Slipped; WS = White Slipped.

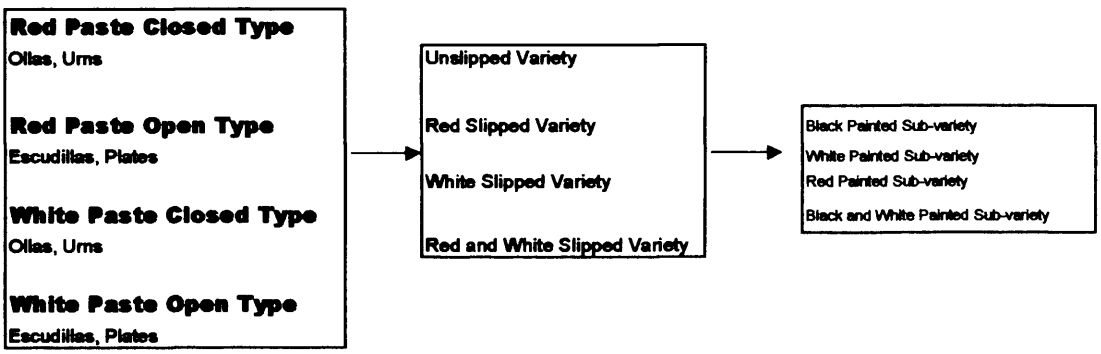

Fig. 8.5. Typology based on modes.

Phase 2		#	Density	%
Reddish	Red in/out open(d20)	6	4.285714	0.21039
Reddish	Red out closed (4inv d12-20)(6ev 6-20)	270	192.8571	9.4677
Reddish	Red out open (d14-26) (1 black paint pedestal base)	11	7.857143	0.38572
Reddish	Red out/white slip in open	1	0.714286	0.03507
Reddish	Red out/White slip in closed	3	2.142857	0.1052
Reddish	Red out/White slip out/black paint out closed	1	0.714286	0.03507
Reddish	Red slip in closed (d6-20) (1ev d14)(1 square lip)	25	17.85714	0.87664
Reddish	Red slip in open (d12-30) (1 white&black paint in (1 pedesta	17	12.14286	0.59611
Reddish	Red slip in/out closed (2ev d12-18)(1 handle)	10	7.142857	0.35066
Reddish	Red Slip in/out open (1ev/d14)(1 black paint out)	11	7.857143	0.38572
Reddish	Unslipped closed (6 inv. d6-30)(30ev.d6-30)	1505	1075	52.7737
Reddish	Unslipped open (d12-30)(1 ring base)	60	42.85714	2.10393
Reddish	White Slip in closed	1	0.714286	0.03507
Reddish	White Slip in open	2	1.428571	0.07013
Reddish	White slip in/out open	1	0.714286	0.03507
Reddish	White slip in/out closed	1	0.714286	0.03507
Reddish	White Slip out closed	10	7.142857	0.35066
Whitish	Red in open	1	0.714286	0.03507
Whitish	Red in/out open (d14)(1black paint out)	4	2.857143	0.14026
Whitish	Red out closed (d10-14)	30	21.42857	1.05197
Whitish	Red out open	1	0.714286	0.03507
Whitish	Red out/white slip in open (1 black paint out)	1	0.714286	0.03507
Whitish	Red slip in closed	1	0.714286	0.03507
Whitish	Red slip in open (1black paint in)	2	1.428571	0.07013
Whitish	Red slip in/out closed	2	1.428571	0.07013
Whitish	Red slip in/out open	3	2.142857	0.1052
Whitish	Unslipped closed (d14)(1 red paint out)	53	37.85714	1.85848
Whitish	Unslipped open	1	0.714286	0.03507
Whitish	Red in White Slip in/out open (d18)(1black paint out)	1	0.714286	0.03507
Whitish	White Slip out closed	1	0.714286	0.03507
Whitish	White Slip in closed	1	0.714286	0.03507
Total		2037	1455	100

Table 8.6. Phase 2 Modal Clusters. inv = inverted; ev = everted; d = diameter.

Phase 1		#	Density	%
Reddish	Red in closed (d 12-30)	6	4.28571	2.098
Reddish	Red in open	1	0.71429	0.35
Reddish	Red in/out closed (d 12-20)	2	1.42857	0.699
Reddish	Red in/out open	1	0.71429	0.35
Reddish	Red in/out-white paint in/out open (d 12-20)	1	0.71429	0.35
Reddish	Red out closed	36	25.7143	12.59
Reddish	Unslipped closed (d 12-30)	214	152.857	74.83
Reddish	Unslipped open(d 12-20)	4	2.85714	1.399
Reddish	White Slip in closed	1	0.71429	0.35
Reddish	White Slip out closed	1	0.71429	0.35
Whitish	Red in open (d12-20)	3	2.14286	1.049
Whitish	Red out closed (d 12-20)	5	3.57143	1.748
Whitish	Red in/out open	2	1.42857	0.699
Whitish	Unslipped closed	8	5.71429	2.797
Whitish	White out & Red Slip in open	1	0.71429	0.35
Total		286	204.286	100

Table 8.7. Phase 1 Modal Clusters. inv = inverted; ev = everted; d = diameter.

As becomes evident from the preceeding tables (8.6. and 8.7.), the modal clusters are too numerous for effective comparison with neighbouring ceramic assemblages or studies of the larger scale. Even if they do account for all the variability shown within the assemblage they become unmanageable for inter-site comparison or region wide studies. One can imagine then

what profusion of modal clusters or "types" would occur had the modal vocabulary been more varied or complex[31]. The modal clusters and the modal typology give a complete and more comprehensive synchronic characterisation of the material at every phase, but analysis of the larger-scale and comparison with other assemblages requires integration and synthesis into wider units for easier comprehension by the analyst, and researchers in other areas.

Due to the reduced variability – simple modal vocabulary – in the pottery both classifications present almost identical results that can be integrated: thus the modal Red Paste Closed and Red Paste Open types can be equated to the taxonomical Panamá Viejo Red Ware. In this case, the difference between both classifications was not so much in formal characterisation but – as contended in this dissertation – in chronological resolution, which makes the difference in the history ultimately built. Following a type-variety approach, these modal types could be construed as Panamá Viejo Red Ware, with Unslipped, Red Slipped, White Slipped and Painted Types (the restricted and unrestricted form could be included in the type description).

As a result, and in keeping with using the best qualities of each approach, the Panamá Viejo ceramic sequence could be set so that the more synthesised (easier to comprehend and use) types established with the taxonomic classification are used for the synchronic characterisation, description and comparison with other sites, while the history or diachronic changes in the pottery are established using the development of un-clustered modes. Hence in the next sections, when setting the pottery in this dissertation in the context of the wider Panamá Viejo site, the Eastern Region and the Intermediate Area, the taxonomically built units shall be used.

Types, Biese and the Eastern Region

Biese's study used both paste composition and several kinds of decoration to make types, which stood at an equivalent taxonomical level.

Biese's Taxonomy	Main Segregation Criteria
Black on White Panelled Red Ware	Black and white paint on red background
Red Ware	Red coloured paste and thus, surface
Decorated Brown Ware (IRBW)	Brown colour paste and plastic decoration on undecorated surface
Ceremonial Ware (Votive Ware)	Plastic decoration (incision and application)
Urn Wares	Vessel form

Table 8.8. Biese's types and their principal segregation criteria.

[31] For instance, in Sitio Conte, the "number of possible design elements found on the...mortuary arts is potentially infinite. Olga Linares (1977:60) has convincingly argued that splitting up the Conte designs into a limitless host of component parts would not fruitfully yield meaningful results" (Briggs 1989:139). While this may be true for a synchronic analysis, it may not be so if the aim is a refined chronology.

As they stand, some of these types can be subsumed as varieties within others, due to the similarities in formal content. For example Urn Ware[32] and the Black on White Panelled Red Ware[33] could be considered as formal or decorated types, respectively, within Biese's Red Ware, which is equivalent to the Red Ware formalised in this dissertation. Votive Ware and IRBW present completely different morphologies and the latter also predates the Plaza occupation, thus they deserve being classified as groups distinct from the Red Ware. Current excavations have found one Votive Ware vessel in Tumba 10, and absolutely no Decorated Brown Ware. Unfortunately, all but one of Biese's Votive Ware artefacts were found unassociated in the burial area, so he was not able to even speculate about their dates. Biese's classification could be reworked in the following way, including the classification of the midden from this dissertation, so that the Panamá Viejo ceramic classification would stand thus:

Ware	Types
Decorated Brown Ware (IRBW AD 400-705, [Biese 1964])	Incised Brown Ware
	Geometric Brown Ware
	Biometric-relief brown Ware
Panamá Viejo Red Ware (AD 1000-1500)	Plain or Unslipped Type
	Red Slipped Type
	White Slipped Type
	Black and White Panelled Type
	Composite Type?
	Biese's Urn Type?
	Plastic Decorated Types such as Fig. 6.18. or Tumba 10's gourd shaped Vessel 1?
Votive Ware (AD 900 – 1500?)	No identified types or varieties yet.

Table 8.9. Panamá Viejo Ceramic Classification together with a reworking of Biese's classification. The Red Ware and its types created in chapter 6 would be the equivalent of Biese's Red Ware. The White Ware is considered an import ware and thus not included. Biese calls wares the types within the Decorated Brown Ware (1964).

The term "ware" is kept in this dissertation in accordance with past research in the Eastern Region, to denominate the largest or more inclusive unit of integration. Also, because the term ware has usually had to do more with paste characteristics (Rice 1987:287) and surface treatment (Knowlton 1996:159; Sabloff and Smith 1970:98), and many groupings in the Eastern Region have been defined with those attributes in mind (see Chapter 3, wares at Taboga, Panamá Viejo, Miraflores, etc.), it has been decided to continue its use. It was thought to be more convenient than to switch to the terms types or styles used in the Central Region. Unfortunately, there are no other sites in the Eastern Region dated to the 2nd millennium AD, and thus no other assemblages to compare against. All other pottery types for the Gran Darién are ostensibly dated to the 1st

[32] Two burial urns – Tumba 2 and Tumba 4 – can be included within the Red Ware

millennium, all with plastic decoration, and even if their dates are not accurate, the plastic decoration sample from Panamá Viejo is not enough for meaningful comparisons.

Other items of Biese's material show relationships or similarities (shared modes) with that from the Plaza. For example, the burial urn lids, which are shallow bowls or plates. He created a separate type for them, the black-on-white-rimmed red ware, where a black over white painted decoration is placed over the red slipped body, especially the rim. The lid for Tumba 2 corresponds to this description (Fig. 3.17.), being an open plate, on whose inner surface is placed a black on white slip decoration over the red background, forming a negative red YC design in the centre, surrounded by red negative and black painted rings. On the rim is more of the black paint, laid out in a geometric design that goes around the vessel and very similar to those (modes) illustrated by Biese and those on the vessels in Tumba 1, the semicircle and lines design of the Mendoza style (1964:Fig. 1).

Another exact coincidence is a gourd effigy Red Ware vessel he found at his site (compare Biese 1964: Pl.10 a, with Fig. 5.31. and Fig. 5.34. from Cupica), while there is almost an exact replica of the same vessel in Tumba 10. Apparently these Red Ware gourds appear in Sitio Conte in both red and smoked wares, considered to be primarily late characteristics (Biese 1964:31-32). An identical vessel was also found at Cupica by the Reichels, the Carmelita Fina type (Cooke 1998:fig 8.3-g).

The Red Ware here created shows many modal continuities and coincidences with Biese's material, especially in the "fugitive" red slip or the choice of not slipping pottery, paste characteristics, vessel forms, the black and white painted decoration, and the urn covers. The two red pots near Tumba 10, together with the effigy gourd and the Votive Ware, are identical to Biese's figures 8c, 8f and 9b. Figure 8d is a pedestalled *escudilla*, another one of which is also found in the Tumba 10 funeral offering and another in the vicinity of Tumba 4. The burials present in both sites are also very similar, both primary and secondary burials. Given all these coincidences and similarities, the chronological positioning of Biese's site, and the socio-political level of hierarchy he conferred it are open for revision.

Biese located his site at a period in time just before AD 800, but the new evidence from Panamá Viejo suggests a far more complex picture as seen above. At least one thousand years of continuous cultural development, evidenced by IRBW (AD 400 – 750), painted Conte and Macaracas wares (AD 700 – 1000) and Votive Ware (AD 900 – 1500), plus the presence of the pottery discussed in this thesis dating from the 10th to the 14th centuries AD.

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[33] Two vessels of this type accompany Tumba 1

These considerations, together with the absolute dates completely contravene what was thought before, namely that at Panamá Viejo, "the absence of both jewellery and trade ware, points to an economically poor or dependent tribe associated contemporaneously with Venado Beach when the latter was a ceremonial or ruling center" (Biese 1964:49). Panamá Viejo looks "miserable" no more. It has all the potential to have been a rather large site, inhabited for centuries, probably by the same group of people. In other words, perhaps the people that created the Plaza midden were descendants of those living when Biese's site and its IRBW were deposited, a continuity that will be discussed in the next chapter.

Relationships with the Surrounding Area

In Central America (and the Central Region of Panamá) most ceramic sequences have been built using taxonomical type-variety analysis, and in the last couple of decades the mode has been incorporated in these studies, for added refinement in both chronological resolution and formal characterisation. Thus ceramic sequences from Honduras to Costa Rica present many well-established and discrete ceramic units of integration (Baudez et al. 1993, 1996; Bonilla Vargas et al. 1987; Henderson and Beaudry-Corbett 1993; Cooke 1976, among many others) whereas on the Panamanian side lack of research in the Gran Darién area has only produced a tentative sequence. Hitherto it is the Gran Coclé area that has received the most interest within Panamá, due in no small part to the arresting visual characteristics of its polychrome pottery, but the Gran Darién is now coming to the attention of researchers aiming to close the lacuna in archaeological knowledge between well studied regions in Panamá and Colombia.

A wider comparison of the Panamá Viejo pottery assemblage with those from the surrounding areas is feasible, taking into account that for the moment it is difficult to compare it to those within the Eastern Region itself due to the paucity of ceramic and chronometric data from contemporary sites. Miranda was not able to obtain absolute dates for his taxonomical typology (see Appendix 2), and he argues that it is now outdated and inadequate (personal communication, 2002). Nevertheless, the Panamá Viejo pottery shares many similarities (apart from those described with Miraflores, Taboga and other sites in the region) with material described for Miranda's Martinambo and Santa Cruz phases, ca AD 1000 and AD 1200 respectively (dated by association with Gran Coclé material). Martinambo material presents very similar paste characteristics and is also left mostly undecorated beyond a simple polish, but there is also bichrome and plastic decoration. Santa Cruz material is argued to be late and said to be indicative of strong exchange with the Central region through the increasing appearance of painted decoration and modelling.

Following Bray's chain link model, and given the lack of reliable data for the Eastern Region, the most appropriate and useful comparisons would be drawn with immediate neighbours to the east

and west, the Panamanian Gran Coclé and Gran Chiriquí spheres of influence and the Colombian regions of Urabá, Sinú and the Caribbean Lowlands. Whereas most ceramic studies in Central America have focused on surface decoration and morphology to describe pottery and make chronology, in north-western Colombia, on the other hand, surface decoration has been used in combination with paste characteristics (for example, de Recasens and Oppenheim 1945:379, and others mentioned below), due to the same motives why these attributes have been used in this study: because plastic decoration was widespread and sometimes preferred over slipping or painting and thus the paste is most often self-slipped or left unslipped, the colour of the exposed post-firing paste affects the overall colour and look of the vessels (Miranda 1974:57). Consequently, in many sites around the pacific rim of the Bay of Panamá, predominantly monochrome types like the Panamá Viejo Red Ware or plastic decorated types such as the Votive Ware are found sharing modes with Colombian types. The monochrome theme of the Panamanian Red Ware is shared with pottery from Cupica and other sites along the Pacific Chocó region of Colombia (Cooke 1998a; de Recasens and Oppenheim 1945; Reichel Dolmatoff and Dussan de Reichel 1961). The Votive Ware has incised and applied decorations over an unslipped polished background which share close similarities with ceramic complexes in the Urabá region and others in the Caribbean Lowlands of Colombia, for instance the modelled-incised tradition of El Estorbo dated to ca AD 1000, the Marron-Inciso (brown-incised) ceramic group from Antioquia, or even the much earlier Malamboid Style of the Tairona Ware (Falchetti 1998; Groot de Mahecha 1989; Santos 1993). Even in polychromy, the colours black and white over a red background (slipped or unslipped) are common in pottery assemblages such as those found at Panamá Viejo and the first occupation of Capurganá by Bedoya and Naranjo, which shares formal and decoration modes with pottery from the Momil complex (1985; Santos 1982; also see appendix 2). The Escorromulo and La Villa phases defined by Cruxent in his survey of Eastern Darién show again monochrome ceramics with plastic decoration, where the paste characteristics affect the exterior appearance and colour of the vessels (Cruxent 1959; Casimir 1973), traits shared also with the ceramics found at Santa María la Antigua in the western shores of the Gulf of Urabá (Verlinden 1958; see also Arcila 1986; Reverte 1968).

The Panamá Viejo Red Ware and the Votive Ware, both late developments in the Eastern Region ceramic sequence, on the whole fit better and share more affinities with Colombian than with Central American ceramics, namely, in their preference of monochrome and plastic decoration. This does not mean that polychromes did not exist in Colombia, or that monochromy or plastic decoration were not present in the Gran Coclé or in Central America. Nevertheless, Gran Coclé pottery is predominantly polychrome, while in Gran Darién and north-western Colombia monochromy and plastic decoration on pottery are frequent. These considerations and the Central Region ceramic attributes seen in Panamá Viejo serve as further confirmation of Bray's chain model, where regions share more with immediate neighbours than with those further apart, yet keeping an unbroken whole of shared characteristics over the entire Intermediate Area. All these

shared attributes in the region's pottery speak of shared tastes in decoration through, very likely intense, contacts with neighbours Future research should focus on a fuller analysis of the painted and plastic ceramics of the Morelos site in Panamá Viejo, which would help elucidate the external relationships of a site close to the frontier between cultural traditions. Furthermore, if Taboga and the Pearl Islands served as stopovers on the trade routes through the Bay of Panamá as Bray states, then future archaeological investigations there should provide first-rate information on contacts, exchange of goods and diffusion of decorative ideas in the entire region.

Most of the north-western Colombian ceramic sequences were constructed decades ago, and have not been modally analysed, and dates for the entire Urabá and Caribbean Lowlands regions are still lacking, while those for many other neighbouring sequences are still not secure (Labbé 1998:15). The same situation is seen in plastic and painted material for the Eastern Region and the Pearl Islands in the Bay of Panamá. Therefore to achieve a more refined chronological picture of these assemblages a type-variety: mode or a modal analysis of these pottery complexes is called for; obviously there is also the urgent need of more research projects and absolute dates to complete the archaeological picture of the region in general.

Recapitulation

The modal classification offers strikingly similar results to the taxonomical classification carried out in chapter 6, a similarity due to the elementary modal vocabulary at hand. The wider the vocabulary or range of modes, the more obvious the divergence between the classifications obtained through both methods (see Lathrap 1962; Raymond et. al. 1975; Sánchez 1995 for complex modal vocabularies). The ceramic assemblage has as a basic difference, two kinds of paste admixture, in this case, identified by contrasting coloration – red and white – and two basic vessel shapes, restricted and unrestricted (*ollas* and urns, versus *escudillas* and plates). Another level of difference is established by the surface treatment on the vessels, which can be untreated, red slipped, white slipped, and with or without paint. These modes of decoration can appear on the exterior, interior or both surfaces simultaneously (see Fig. 8.1.).

It also became clear in this study that the multivariate methods to achieve a modal typology can be so complicated as to elude comprehension (Borgogno 1980; Keech 1995:2). In seeking a parsimonious, coherent and concise classification, a taxonomical or type-variety: mode method may be more expedient in achieving satisfactory results, while the modes can be left to obtain thin chronology. For all its advantages and comprehensiveness, a modal typology may offer an overwhelming and unmanageable amount of information, that may be useful for a good synchronic characterisation, or to get at the potter's "mental template", but may not necessarily be the best approach for a historical construction or a regional study of ceramics. The taxonomic

typology built in chapter 6 is more compatible with those from other sites in Eastern Panamá, which is why it is being used instead of the modal typology in Figure 8.1.

In relationship to Biese's classification of Panamá Viejo pottery, it could be said that the material in this dissertation and his are the same. The red paste and (monochrome) colouring pervasive through most Eastern Region ceramics are present in both classifications. The White Paste Ware from the 1999 sample could be equated with the trade wares he mentions from the Central Region. The modal types here created could also be thought of as being part of the monochrome tradition mentioned before, just like the taxonomical types created in chapter 6. These same modes (red coloured pastes, lack of slip, black and white paint over red background) are seen in the assemblages described in Taboga, Miraflores, Panamá Viejo and other sites all the way to distant Cupica. Even if usually they were ignored, these plain looking types commonly formed the majority of the vessels or sherds excavated.

This discussion intends in some way to dispel the idea that it is plastic decoration only which characterises the Eastern Region. As said before, if only surface decoration is measured, then that is all that will be seen. A modal analysis reveals that, at least in the first half of the 2nd millennium AD, a plain pottery with a reddish-brownish look, that could also be plastically decorated, was also widespread in the region. This plain, reddish appearance is due not only to the fact that the clays are reddish, but also and just as importantly, that they chose not to slip or decorate them further, in the majority of cases. It seems far more amenable to study variation expressed in plastic or painted decoration, because it can tell much more about cognitive-spiritual processes, trade relations, elites and so on; but the potential subtle changes present in plain wares can offer just as important clues for chronological and formal analyses. The everyday ware that is all the majority of the people left is also worth studying. Can archaeologists afford to keep ignoring half of their assemblages only because they look plain and uninteresting?

Human Agency

It seems appropriate to mention here a recent trend in archaeological thought: agency theory. For reasons of space this dissertation cannot give a comprehensive account of the epistemological and practical issues concerning agency theory, as there is still little consensus on what it actually means (Dobres and Robb 2000b:3), but one would tend to agree with Cowgill on that agency theory is more a paradigm than a tool (2000:51). Focusing on the individual human agent and the decisions they took can prove a fruitful way of learning much more about how human brains and minds work (Cowgill 2000:53), thus reaching a better understanding of the "potter's mental template" modal analysts talked about. A tool that seems to fit well in this worldview would be, for instance, Schlanger's use of the chaine-operatoire approach to lithic technology. "If the becoming of material culture and the succession of material actions can be reconstructed on the

basis of static archaeological remains, then the active mind of the past may well be, after all, within reach" (Schlanger 1994:143).

The modal taxonomy seen in Fig. 8.1. could be seen as a list of every crucial step in the making of a pot, where the potter would have to make a decision and choose from a variety of alternatives, or "forking paths" (McGlade 1999b:158). Every hierarchical level in the taxonomy would be equivalent to one of these bifurcations, or crucial decision points. These steps must be followed in order to make a pot. And at each level, the potter has a variety of choices to make, very much like the "pathways" advocated in Walker and Lucero's (2000:136) approach to agency in their analytical model of house building in Mesoamerica. Every fork in the path is a mode, and a traversed path is a modal cluster, which then becomes a pottery type that enables us to manage the information. Some paths are more trodden than others and it is the job of the archaeologist to determine, if possible, why.

Paste	Vessel Form	Rim Diameter	Surface Decoration	Further Decoration
Red	Olla	Small or large	Unslipped	Applications (handles, rims)
	Escudilla	Medium	Red Slip (out, in, both)	Black Paint (out, in, both)
White				
	Plate	Small or large	White Slip (out, in, both)	Red Paint (out, in, both)
	Urn	Medium	Polishing (out, in, both)	White Paint (out, in, both)

Table 8.10. Different paths (from left to right) to follow to make a pot in Panamá Viejo.

Thus, a modal analysis seems to fit well with the aims and purposes of agency theory, when studying the small-scale processes in human affairs. Offering the smallest temporal resolution available, it would be possible to follow the 'forking paths' the potter took in fashioning the blob of clay into a beautifully crafted pot, and also achieve more precise, thinner chronologies.

In the specific case of Panamá Viejo, the "path" of choosing the reddish clays would be taken, one would think, because of the ubiquity of red clays in Panamá. The whitish pastes are more common towards the Central Region and that could explain their paucity in the deposit, and thus why this "path" is not chosen as often, although there are sites not too far away from Panamá Viejo and the Cueva language frontier, in northern Coclé province, where the predominant pottery was conformed by whitish pastes, known as the Limón Group, which is a late development of

Central Region pottery styles, with a 2 sigma range of AD 1270-1640 (Cooke et al. 2003b:29-32; Griggs et al. 2002) similar to the dates at Panamá Viejo.

Then comes the "fork" for choosing vessel form, and it is the restricted or closed form "path" which in Panamá Viejo is more trodden than any other, perhaps because of its simple shape, and versatility of use. The *ollas* or restricted vessels are generally left unslipped, only showing slipping on the lip of their everted rims. The lack of decoration in the case of a domestic ware could be explained if one assumes that a fine decoration is wasted over a kitchen fire; the slipped or extra-polished lip could be due to a need for added waterproofing or hardness of the rim.

Which brings the discussion to one fork in the path that is more trodden than one would think. Everted rims are more popular than any other kind of rim, present on most of the *ollas*, which are restricted vessels (Table 7.7.). A restricted vessel such as an *olla*, in its simplest form presents an inverted rim, because an everted rim on an *olla* is a plastic addition entailing more work than necessary to achieve the function of containing liquids or solids. Thus a modern observer could be inclined to think that the more common form to be found would be the inverted rim *olla*. However, inverted rims are impractical for the pouring of liquids, which could be why the simpler path of not adding a rim is shunned for the more complicated one of adding more clay, crafting the everted rim, and then slipping it red.

An everted rim is more suited for the pouring of liquids, while the inverted rim is more suitable for keeping things inside the vessel. The prevalence of either rim could be indicating various things depending on the context[34], but the beach deposits at Panamá Viejo have shown to be a complex context, mixing the domestic and funerary arenas. In a domestic setting, for example, a majority of everted rims could point to a preference for foods cooked in liquids, like seafood broths, such as that found in the funerary context of the offerings above Tumba 1 or near Tumba 10. Inverted rims could point to vessels adapted for containing or storing foodstuffs (although the storing of grains is not viable in the humid tropics), *chicha* (an alcoholic beverage made from maize) or also the bones of human beings, such as urns. Ascertaining the specific usage of the pottery, or the social context of the plaza, whether it was domestic first, then religious, or both simultaneously is difficult at this time with the material at hand.

Walker and Lucero sustain that the functions of objects are not static. For instance, cooking pots, while seemingly utilitarian or domestic, can become ritual artefacts if an actor takes them out of, a kitchen and places them in Tumba 1 for example, or renders them useless ("killed") by breaking

[34] "Behavioral interpretations in archaeology are hugely dependent upon contextual precision, that is, being as sure as possible about time, space, and people, including their age and sex; their relationships with other individuals and groups; and their social categories (occupation, position, status and rank). Being successful at this task not only presupposes good field archaeology, accurate recording and careful illustration of artifacts, but also well-preserved human remains and sound bioanthropology" (Cooke et al. 2003a:91)

them over Tumba 3. One would agree with the authors in that the functions of objects do not ultimately reside in their forms, but rather in their variable pathways created by agents, but in some contexts it is difficult to determine such pathways or even the agent. "Simplistic utilitarian/nonutilitarian functional classifications lead to equally simplistic inferences of prehistoric activities from archaeological contexts. Obvious interpretations based on the assumed functions of artifacts can be deceptive when detailed contextual clues are not considered" (Walker and Lucero 2000:133). In the next chapter it will be seen how the pottery deposit of Panamá Viejo seems to deserve an explanation more complex than that of a simple rubbish dump turned cemetery, thanks to precisely those "detailed contextual clues".

The paths trodden by the local potters in making a pot usually end in a simple polish of the exterior of their vessels, not applying any decoration at all, painted or plastic. The reasons why this fork in the path is more travelled than any other, and the path these vessels followed after leaving the potter's workshop will also be explored more fully in the next chapter.

Different Temporalities

Although the ceramic chronology is measuring principally one activity (the differential deposition of pottery), it is useful to consider the different temporalities or periodicities at work within the deposit and the pottery assemblage in it. Olivier's work (1999) on funerary assemblages takes an approach similar to that of the forking paths seen above, stating that a parallel can be drawn between the periodicities at work in a burial, and those present in any other archaeological deposit, such as the Panamá Viejo pottery midden. Olivier (1999:132) sees at least three temporalities or life cycles for his funerary assemblage, and concordantly just as many can be seen in Panamá Viejo: a) the life cycle of the objects deposited in the grave, extending from manufacture, to use and burial with the deceased or breakage in the beaches of the site; b) the life cycle of the cultural deposit itself, from the very beginnings of occupation at Panamá Viejo when the first sherds came to be deposited, through its use, abandonment and confinement by the later Spanish occupation; c) the cycle of recognition of the status of the deceased, extending from the period following death to burial; d) the cycle of relationship with the dead person, extending from the erection of the funerary monument to later re-occupations or rearrangements.

These cycles comprise durations of different scales: from a few days to a few weeks for the cycle of recognition of the status of the deceased, from a few years to a few decades for the life of the artefacts, and finally, from some generations to centuries for the cycle of relationship with the dead person. Olivier also thinks feasible to include the temporal scale involved in the archaeological interpretation, operating here over several millennia. Under these conditions the analysis of funerary material has to be envisaged as the connection of patterns observed within

these different spatial and temporal scales, to reveal the dynamics lying beneath the surface of events and practices (Olivier 1999:132-133).

The similarity between Olivier's approach and the forking paths of agency theory becomes apparent in that every periodicity, every life cycle or temporality is in effect a path, traversed by whatever is being focused, be it the making of the pot (as above), the path of the deceased person, the pots in the offering, or the midden itself, which brings one to the matter of scales, formal, temporal and spatial. Of course, these paths or periodicities are tools that help the archaeologist understand the past, in a very similar manner as chronology or taxonomy. Historical circumstances (contingencies) determine the nature of the forks in the path, and which forks are chosen when walking the path.

A chronology from excavated material measures, in principle, the formation of the deposit where materials lie. Nevertheless, within this temporality of the deposit there are others to be found. The different phases constructed measure not only the formation of the deposit, but also the introduction or discontinuation of wares, types, modes, and attributes in the pottery. When, say, a new mode or type is introduced into the record it is not necessarily indicating the invention of that mode, but its introduction to that particular deposit. Still this introduction indicates a change, maybe not related to how the deposit was forming, but in the way pottery was being manufactured, acquired, used or discarded. The phases and stratigraphy only indirectly measure these changes; nevertheless the pottery is there, obeying a different temporality than that of the deposit. The manufacturing of pottery and its exchange among the Indians had little to do with the formation of the midden, except its disposal, yet all these activities are measured in the chronology.

The next and final chapter shall discuss the history of Panamá Viejo and how it is affected by both chronologies, taxonomical and modal. The histories will not only deal with pottery but more importantly, with the people who once inhabited the village of Panamá Viejo, and the different apparent "paths" they followed.

Chapter 9
The histories of Panamá Viejo and The Eastern Region

Introduction

There are now two chronological constructions based on the pottery of Panamá Viejo, one taxonomical, the other analytical, offering different ways of interpreting events related to changes manifested in the pottery. Accordingly, this chapter attempts to construct two different histories for the development of the Precolumbian settlement at Panamá Viejo during the period involved in the formation of the midden, in the first half of the 2nd millennium AD. Archaeologists do not simply deal with the history of pottery, and as a humanistic science, archaeology's ultimate goal is to achieve as clear a picture as possible of the people behind the pots, ever improving explanations or interpretations of what they were doing, where, when, how, and why. History cannot simply be a history of pots, rather of people. Thus two culture histories of Panamá Viejo's Precolumbian society shall be built from both perspectives, taxonomical (one cultural phase) and analytical (two cultural phases).

These histories are complemented with the absolute dates discussed in chapter 5, and the archaeological and ethnohistorical data of the people who inhabited the site, about their life and history and their cultural background in general, shown in chapters 3, 4 and 5. This history provides a larger temporal scale, which can serve as background for the shorter scale of events seen in the taxonomical and modal histories.

Furthermore, it must be noted that histories can only be as good and detailed as the data. The Panamá Viejo archaeological project must continue gathering other kinds of data – dietary, faunal, environmental, etc. – to give more flesh to the temporal skeleton already built. Following the theoretical discussions in chapters 1 and 2, one should be wary of assumptions about diffusion, migrations, dominance and subservience, advancement and backwardness and any such comparisons without more information to uphold them[35]. Thus, a summary of the larger scale history of the region must precede the building of the local Panamá Viejo history, taxonomical or modal, with a description of events leading up to, and contemporary with those at the site.

A History for the Eastern Region

Change in the Bay of Panamá

There is little archaeological information about broad cultural processes in the Central or Eastern Regions for the first half of the 2nd millennium AD, but the 200 years immediately before this period are better documented. Past research has identified some key changes – not necessarily interrelated – occurring between AD 750-1000, revolving around economic relationships in the

Bay of Panamá, that played out in both spheres of interaction, Gran Coclé and Gran Darién. These are: a) the supposed reorganisation of relationships in the Bay of Panamá all the way down to Cupica, when gold is said to have replaced seashells as the major correlate of social status; b) the replacement of the International Group of gold work in Panamá, ca. AD 900, by others with more localised flavours (Bray 1992:39-40); c) the disappearance of IRBW pottery from the cultural repertoire; and d) change in Central Region pottery styles from Cubita (AD 500-700) to Conte (AD 700-850) and later Macaracas (AD 850-1000).

Cooke proposes that, in the Bay of Panamá during the period cal AD 750 – 1000 gold work displaced *Spondylus* and *Pinctada* shells as the primary semiotic correlate of social status engendering a spatial reorganisation of commercial and social relationships and (in a strictly material sense) culture area distributions (Cooke 1998a:103; Briggs sustains that at least in the Sitio Conte and El Indio graves gold indicates high status or rank no more than bone and ivory artefacts [1993:160], a supposition backed up by the sumptuous seashell necklace and the lack of gold in Tumba 1). If gold pieces were manufactured at major population centres, exchange routes emanating from these toward the placer deposits, would have changed direction from the exclusively coastal and maritime routes that would have linked the acquisition and manufacture of shell and pearl ornaments. The gold-producing areas of the isthmus are more numerous than the shell-producing ones, and are also more widely scattered. Consequently, when gold work finally displaced coral reef marine shells as the most desired semiotic correlate of power and influence, the geographical emphasis of social relations changed and diversified (Cooke 1998a:103). After circa AD 700, important people had access to very large numbers of gold adornments. The shift in organisation and social relations is seen as well in the site of Cupica, which apparently reoriented its commercial contacts to a more north-westerly direction and away from its immediate Colombian neighbours. Although plain and decorated pottery were manufactured locally at Cupica, the cognitive information they contained appealed to a wider audience, including people who lived 300 km away on the Pearl islands, up the Bayano river, and in Panamá Viejo (see Fig. 5.32. 5.34. and 5.35.; Cooke 1998a:104; Cooke et al. 2003a).

Simultaneously with this shift in interest from shell to gold work, but not necessarily related to it, in the Central Region there was a change in pottery styles, from the earlier Tonosí and Cubitá styles to the later Conte and Macaracas, introducing the use of the colour purple, which starts to disappear by Parita (AD 1000 – 1300) style times. The iconographic motifs see on the Conte and Macaracas pottery styles appear as well on the shell work and the gold work (Cooke and Sánchez 1997). In the Eastern Region, the IRBW pottery disappears after around AD 750. It is unknown what pottery wares replaced it, but it has always been assumed that they were plastic decorated wares like those in Miraflores and the Votive Ware.

[35] For example Biese, when stating that Panamá Viejo was subservient to a capital in Venado Beach (Biese 1964:49), an

Consequently, to study how both traditions interacted with each other, an interesting place to look for the archaeological traces of the impacts these processes would have left on both spheres of interaction would be sites near the frontier, such as Panamá Viejo, where both semiotic traditions could have met, and where the exchange in genes[36], ideas and material culture would have taken place. As with any frontier, the one between both traditions seems to have been a very fluid one, thus Panamá Viejo could have been open to influences from its westerly neighbours.

Panamá Viejo's external contacts

Culture area distributions of ancient Panamá experienced diachronic changes, spatially and culturally. In the early 16th century Panamá Viejo lay well within the Eastern Region, but close enough to the "frontier" with the Central Region – only 75 km. –, for there to have been exchange with western neighbours, and it is archaeologically possible to identify certain cultural traits in Panamá Viejo commonly reported in the Gran Coclé. Still, when contacted by the Europeans, the villagers of Panamá Viejo demonstrated a predominantly Eastern cultural repertoire evidenced in their most distinguishing characteristic in the eyes of the Spaniards, their Cueva language.

Possible Central Region or Gran Coclé cultural traits at Panamá Viejo:

- Imported Conte, Macaracas, Parita and El Hatillo Polychrome Styles.
- Elements of those styles in local Panamá Viejo pottery, such as short pedestal bases and geometric painted designs (black lines-triangles; YC design; black and white on red background; white "Greek keys").
- The White Ware.
- Secondary burials: urn and bone bundles.
- Possible human sacrifice as burial offering, as seen in Tumba 6.
- Possible large nucleated settlement pattern.

Imported pottery features

In Panamá Viejo there are not only fragments of vessels imported from the Central Region (those described by Biese), but also Central Region decorative elements in locally made pottery. Biese finds some polychrome sherds from the Central Region, especially some bearing a purple colour (Biese 1964 Fig.10 f, g.); this colour is characteristic of Conte style ceramics (AD 700 – 850) and also seen in Macaracas pottery (AD 850 – 1000). On the local pottery, for example, Vessel 1 and 3 of Tumba 1 present a black and white painted design on the rim (Fig. 5.18.) that is very similar to descriptions of Mendoza type pottery belonging to the El Hatillo Style (AD 1300 – 1500), of

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assumption based on his failure to find any gold or other "valuables" (see also Briggs 1993).

[36] "...this is the typical case in frontier settlements, where there is always a bi-directional flow of genes" (Arias 2001:60, translation by the author).

wide distribution in Pacific sites (Isaza 1993:58 and 187)[37]. This design was also observed in many vessels recovered from Venado Beach. The black painted geometric decoration around the lid of Tumba 2, Biese's lids and some Taboga sherds (see Fig. 3.5. and 3.17.; see also Biese 1964 Fig. 1) presents a variation on the same theme, the rounded-triangles and lines motif of the El Hatillo style. The only painted design discernible from the Plaza pottery is thought to correspond also to the Mendoza Variety of the El Hatillo style (Fig. 6.17.). Even the decorative YC design at the bottom of the lid of Tumba 2 is ubiquitous in Central Region imagery. Furthermore, the low pedestal of the plates, and the s shaped profile, as seen in Tumba 1, are also very similar to El Hatillo style pedestalled plates, where the pedestal base becomes squatter and shorter than in previous phases (see Fig. 5.16. and 5.18.). One of the pedestalled *escudillas* near Tumba 4 in Panamá Viejo presents a white painted design on an unslipped polished surface (Fig. 5.26) very similar to the "greek keys" (*llaves griegas*) seen on Parita style pottery (AD 1000 – 1300; Fig. 3.25.).

White Ware

The White Ware found in the Plaza deposit is a completely different type of pottery (see Appendix 1) in its paste composition, but not so much in its surface treatment. In northern Coclé province, very near the language frontier, there is a recently found pottery group where whitish pastes predominate, known as the Limón Group, which is a late development of Central Region pottery styles, with a 2 sigma range of AD 1270-1640 (Griggs et al. 2002; Cooke et al. 2003b:29-32). The paucity of white wares at Panamá Viejo (following the Criterion of Abundance, see Bishop et al. 1988:16) and their distinctiveness from the majority of the local red ware is probably evidencing an imported pottery. Following Bray's model in presuming exchange with the closest neighbour, the northern Coclé groups could be good candidates for the source of this material.

Urn Burial

Ethnohistorical sources do not mention secondary or urn burials in Cueva territory (Romoli 1987:145). However, in Panamá Viejo and other Eastern Region sites (see appendix 2 for sites reported by Linné and others with urns with possible funerary uses; also the Torrijos Carter site, Carlos Fitzgerald, personal communication, 2003) there are secondary burials (urns and bone bundles), in different arrangements. The extant archaeological literature reports this type of burial far more commonly in the Central Region, but this image could be due to sampling bias in the Eastern Region, and another case of the Spanish not reporting something that did not interest them.

[37] This design, consisting of sub-triangles united at their base by black lines, and enclosing groups of vertical parallel lines, was identified for the first time in Girón Type pottery, of the Arístides ceramic group (100 BC – AD 300). It is thought that the survival of this mode of painted design represents, then, the longevity and continuity of the "Ceramic Painted Tradition of Central Panamá" (Isaza 1993:187).

Tumba 6 and Sacrifice

According to Romoli, it appears that the Cueva did not generally sacrifice human retainers for deceased chiefs. Oviedo reports sacrifices practised in some Cueva provinces, but the passage appears to imply that it only happened around Pacific coastal sites[38], thus Romoli concludes it was not a widespread custom in Cueva country (1987:143-144). The individual in Tumba 6 appeared to Alvaro Brizuela – who excavated it – to have been a sacrifice. Although there is no physical evidence to back up this assertion, however, there are two facts that seem to point to a sacrificial burial, supporting Brizuela's argument. First of all, the unusual disposition of the body, found in a seated position, while all other primary burials were extended. The sample in the Plaza deposit is not large, but including Biese's burials and those at the Morelos site, none showed this disposition. They were all primary extended burials or secondary burials in urns or bundles. The young person in Tumba 6 is seating and the skull rests on the left forearm, as if the individual were sleeping, thus it would seem he or she was placed there soon after death, before the advent of *rigor mortis* or putrefaction, just as the chronicles describe it for the Central Region (Romoli 1987:145; see for example chief Paris' burial and the sacrifice of retainers, which included other chief's sons, narrated by Espinoza, in Torres de Araúz 1992:36).

Secondly, if this is a case of sacrifice then the question would be, sacrifice in homage of whom? This person lays only 1 or 2 metres to the south of Tumba 1, where this obviously very important woman was buried. Even if the Tumba 6 individual post-dates Tumba 1 by 200 years or so, could this be the case of a sacrifice in homage to the woman in Tumba 1, a human offering to the body of a revered ancestor (see discussion below)? This supposition is, for the moment, intuitive and unsubstantiated by material evidence, but if for the sake of argument it is accepted that Tumba 6 is a sacrifice (in honour of the woman in Tumba 1 or not), then it could be tentatively said that this custom is more commonly reported in the Central Region than in the Eastern Region, an assertion also affected by the same biases mentioned for urn burial above.

A nucleated, large and enduring settlement

The complete absence of IRBW from the Patronato excavations and the absolute dates attest to a later period of occupation around the coast of Panamá Viejo. The settlement seems to have been first erected around the area of Biese's site and then gradually expanded towards the beach – it is unknown if it spread further inland. The question would then be as to how the settlement evolved, if it was intermittent occupations by several short-lived settlements moving around the general area of Panamá Viejo, or a single occupation that grew in time from Biese's site (near the Puente del Rey) to the area of the Plaza, the Morelos monument and beyond (see discussion in DeBoer et al.1996). These three sites or foci could be seen as the points of a triangle (see Fig.

[38] "*en Panamá e Nata e Pacora e otras provincias de la lengua de Cueva, en la costa del mar del Sur e por alli cerca*" (In Panamá and Nata and Pacora and other provinces of the tongue of Cueva, in the coast of the South Sea and thereabouts. Oviedo in Romoli 1987:144, translation by the autor)

5.2.), and while the traces of this town could have been disturbed or destroyed by the colonial suburbs and the modern occupation there is mounting evidence of Precolumbian features in the area in between these points. Given the distance between Biese's site and the Plaza, approximately 800 m, it is plausible to see a large Precolumbian village that at the time of the conquest probably occupied almost the same area that Colonial Panamá Viejo did.

All pottery types are present at Biese's site, dating from the mid 1st millennium AD (IRBW and Conte Styles) up to the Contact period (Parita and El Hatillo styles, Panamá Viejo Red Ware and Votive Ware). At the Plaza and Morelos sites, which proved to be coetaneous, only the later types and dates appear, with a complete dearth of IRBW and other early types. The amounts of pottery and the continuous progression of pottery styles from early to late give the impression of a dense and prolonged (uninterrupted) occupation.

The settlement pattern of this "large" site of Panamá Viejo is unknown. Excavations of the Morelos habitation site have revealed a small sample of the spatial patterning of houses in Precolumbian Panamá Viejo (Martín 2002a, 2003), but Colonial and modern occupation have erased most traces of Indian habitation structures. The "infamous" first description of the village of miserable Indians can be misleading as by that time European diseases would very likely have already impacted and decimated the local population (Arias 2001; Cooke et al. 2003b: 3-6; see also Castillero 1995:39; Melville 1994). Also, the current site of Panamá Viejo is supposed to be located approximately 1 km to the west of the site of the first contact with the Spanish (Cooke et al. 2003a:105) so the epithet would refer to that location.

One of the few clues as to the spatial arrangement of the village is given by Oviedo in 1529, when he states that the early Colonial town of Panamá Viejo was composed of 75 huts, a long and narrow town hugging the coast, "*hasta cuyas casas, por el medio dia, llegaba la marea en su flujo*"[39] (Sosa 1919:25). It is probable the very first colonists would have followed the Indian settlement pattern, as they depended on the Indians to survive (Mena García 2003:61-62). Thus, not only the early Spanish town, but also the Precolumbian town or at least part of it could be envisaged as being settled on the sands of the beach of Panamá Viejo, near or on top of the midden; following the ceramic data, it is very likely too that the Precolumbian occupation extended as far north as Biese's site at Contact. The beach was possibly not only used for religious purposes, but also could have been a harbour, where the local fishers kept their canoes, or processed the catch of the day. If these activities were taking place near the water's edge, then the traces they left are gone, or under tons of sludge in the Bay of Panamá.

[39] "and the high tide reached its houses at noon".

Thus Panamá Viejo would probably have been an extensive town, like those described by the chroniclers for the Central Region, where the chieftain's main settlement accommodated hundreds of people (for instance, sizeable villages like the seats of the Natá, Escoria and Parita chiefdoms, see Torres de Araúz 1992). This is in contrast with descriptions of the Cueva settlement pattern, where the rule was that of very dispersed hamlets, with a couple of houses each, spread over wide areas under the aegis of a chieftain in an only slightly larger town[40]; and while it is reported that some chiefs could muster large numbers of troops and commoners in their principal settlements, it is possible these people did not reside there (see chapter 4). Consequently this difference in settlement pattern could be seen as an influx of peoples or ideas from the Gran Coclé area, where nucleated settlements appear to have been the norm.

These "foreign" traits in the cultural assemblage of Panamá Viejo would seem to be in accordance with Bray's chain model, whereby the Intermediate Area forms a cultural continuum, with immediate neighbours sharing more cultural traits than with those further apart (Bray 1984:308-309; also Cooke et al. 2003a:134); thus Panamá Viejo, a "frontier" town, would share more cultural traits with Gran Coclé than with Gran Chiriquí traditions, while still retaining a predominantly Gran Darién cultural baggage. Whatever the case, the fact that Panamá Viejo was in contact – at least regarding the pottery and some of its semiotic content – with the Gran Coclé sphere seems to be undeniable. If these imported features and items, or locally made artefacts impregnated with imported meanings, were seen as exotic sumptuary goods, that accorded prestige to their owners, it would help explain why some were incorporated as offerings in and around their burials (Earle 1997:7; Helms 1979). It certainly seems that by the early 2nd millennium AD the people or elites of Panamá Viejo, although still predominantly using their Gran Darién undecorated pottery, were open to cultural exchanges with their more westerly neighbours. There is little decoration in Panamá Viejo, but as seen in the Morelos sample and Tumba 1, when it came to decorating a vessel beyond a simple slip, it seems that painted decoration was more popular than plastic decoration near the interaction sphere of the Gran Coclé.

Cueva at Panamá viejo?

It is difficult to positively identify the people living in Panamá Viejo and their pottery during the 10th-13th centuries AD with those Cueva speakers who met Tello de Guzmán in 1515, even if the absolute dates and the ceramic data point to the continuous utilisation of the area of the Plaza by the same "people" or ethnic group up to the time immediately antedating contact. Panamá Viejo's relative proximity to the fluid language frontier between the Cueva and Gran Coclé polities renders any ethnic or linguistic associations of the material culture speculative. To further prevent clear identification, Spanish writers do not make any references whatsoever to Cueva pottery – to compare against the archaeological record – nor indeed to any of the polychrome pottery that was

[40] A dispersed settlement pattern was apparently a feature also of Chibcha chiefdoms in Colombia (Reichel Dolmatoff

widely used in domestic and ritual contexts in the Gran Coclé, preferring to focus, naturally, on the gold work and other crafts like woodworking and basketry (Cooke et al. 2003a:105).

Romoli states that apparently the manifestations of Cueva aesthetic sense related more towards personal adornment, as in jewellery, body paint and tattoos, and that they did not craft images of gods or persons, and no drawings or engravings are found or mentioned either. "They appear not to have even experienced that propensity to decorate the things of daily use, which among many peoples makes interesting and beautiful even the most humble wares" (Romoli 1987:178, translation by the author). Although Romoli's statement could be in accordance with the lack of decoration and elaboration encountered in the pottery, it could also be another case, among others (see Sauer 1966:276 for example), of too literal a reading of biased Spanish chronicles interested only in gold, mistakenly assuming that if they did not mention a particular craft it was not practised, which in the case of this dissertation would be the decoration of pottery[41].

It was Cueva people in Panamá Viejo who met the Spanish not too long after the person in Tumba 6 died. The Cueva are supposed to have been in Eastern Panamá long enough not to remember another homeland (Romoli 1987:180), and Cooke and Drolet also think that the Gran Darién interaction sphere and its Cueva peoples had been relatively stable, without major social or political upheavals, for the last 1500 years of the Precolumbian Period (Drolet 1980:13; Cooke et al. 2000:154). In fact this lasting stability is seen by some as a characteristic of the whole Intermediate Area, based on data from linguistics, physical anthropology and archaeology (Quilter 2003:2). Nevertheless the proximity of the site to the fluctuating frontier between both spheres of interaction precludes any certainty as to the ethnic or linguistic identity of its inhabitants. It remains only as a possibility, then, that the people, the pottery, and the funeral practices found in the Plaza at Panamá Viejo, belonged to the direct ancestors of the Cueva described at Contact times.

The nature of the economic, social or political relationships between the village of Panamá Viejo and the other settlements in the immediate area or in the larger context of the Eastern Region is difficult to ascertain or describe clearly at this stage, apart from mentioning the "foreign" cultural traits mentioned above, because Panamá Viejo is one of the few, if not the only, relatively "late", well dated site found in the Eastern Region – therefore there are no other contemporary assemblages to compare against. But at least it seems safe to say that speculations about its alleged economic and political dependence on the "capital" at Venado Beach, as Biese suggested, are unfounded. Pedrarias' claim that Panamá Viejo was a manufacturing centre for gold work is

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1965:162)

[41] "Take the Geographic Relations as an example. Ostensibly these documents were made to record the Indians' use of the natural resources, but they were actually used to assess the potential for Spanish exploitation. This requirement shaped the perception as to which natural resources were worth mentioning, and very often their future use" (Mellville 1994:85).

also unsubstantiated[42]. The most plausible assertion is that there were people living here at least since the 5th century AD, initially around the area of Biese's site. It is possible the site grew with time to encompass all the area the later Colonial town of Panamá Viejo did. The presence of all pottery types at Biese's site, early through late, and of the later types at the Plaza and Morelos site point to the simultaneous use of the latter in the 2nd millennium, and a continuous occupation since the mid-1st millennium in the former. And this does not even include the information coming from Tumba 1 to be discussed further below. The Gran Coclé pottery found at Biese's site, the elements of that tradition locally found and listed above, point to a sustained contact and exchange, of material culture and ideas between both regions.

The formation of the Plaza ceramic deposit probably took place from sometime before AD 1000 to around AD 1300, although this does not mean that it ceased to be used to dump pottery or bury people right up to the Contact period. Some of the absolute dates point to activities taking probably taking place just before the Spanish arrived. With this background in mind, one is ready to take the two chronologies built in chapters 6 and 7 and integrate them with the extant data.

Two different culture histories

Both the taxonomical and modal chronology will relate a different history depending on what aspect of human affairs is focused on. In the case of the pottery assemblage from the Plaza the difference is more of detail and chronological resolution, in a history that focuses on the changing uses the locals gave to the area of the Plaza where pottery was deposited.

Taxonomical history of Panamá Viejo

The taxonomical classification and the ceramic wares achieved in chapter 6 revealed no significant diachronic change in the pottery, allowing for the creation of only one chronological phase. The frequencies of all the different wares and types remain stable through time. Two alternatives spring to mind then: either a short span occupation, or a conservative pottery assemblage over a longer time span. Considering the absolute dates coming not from the burials, but only from the pottery sherds, which are in date groups 2 and 3 (table 5.8.), this period of time can be dated to ca. AD 1000 – 1280 (at 2 sigma calibration).

In terms of the activities carried out at the Plaza, this would mean that for at least 300 or more years the same kind of pottery was manufactured and deposited without any significant qualitative or quantitative changes. At first glance, it is a predominantly domestic assemblage, with painted or plastic decoration being the exception; a Red Ware composed mostly of restricted containers made of reddish clay and left undecorated beyond a simple polish or a thin slip. The White Ware

[42] Concerning this claim, "accepting or rejecting...(it)...is a subjective matter: either one believes it or one does not" (Cooke et al. 2003a:132).

could be seen as trade material imported possibly from the Central Region, where calcium rich clays are found.

The depositing of pottery antedates the burial activities in the Plaza, as the burials intrude in the midden; this however does not mean that pottery was no longer deposited after funerary activities started in this area. It could thus be postulated that if the deposit had a formation time of, say, 300 years as shown by the absolute dates, human burials started to be practised there near the middle of this time span, probably near to AD 1100 until the Contact period (see absolute dates for the burials Table 5.7.). If the midden originated by domestic usage, perhaps these activities moved elsewhere to give place to the funerary rituals that later occupied the area, although domestic and funerary activities could share the same space in Precolumbian Panamá (for instance, Phase II at El Indio site, Briggs 1993:152, Ichon 1980).

Modal history of Panamá Viejo

The modal classification of chapter 7 seems to show two distinct temporal phases. Phase 1 represents the beginnings of occupation or of use of the area of the Plaza, activities which included the disposal of pottery and probably human burials. The assemblage of pottery was composed of mostly restricted vessels of reddish clay, which results in a reddish colour when left unslipped or unpainted, which is the predominant trait of the pottery.

Phase 2 sees the continuation of all the modes present, and the introduction of a different kind of rim mode into the deposit. The simplicity of the forms introduced in phase 2, the inverted rim and the plate rim, most probably point not to an addition to the modal vocabulary of the potters, but a change in the rules of what could be disposed of in the midden. That is, even though inverted and plate rims would have been already available to the potters, it is not until phase 2 times that inverted rim pots are discarded in the midden of the Plaza.

Inferring such a deliberate behaviour only from the presence of inverted and plate rims alone could be thought of as dangerous. In addition, it is unknown whether the dumping of pottery was just a matter of domestic hygiene or if it had other kinds of meaning. The deposit may have been the place where used and broken pots were disposed of, or it could also be a place of special significance, were pots were deposited alongside or as part of the funerary rituals surrounding the human burials in the Plaza. As discussed in chapter 8, the definition of context is crucial to attempt interpretations of human behaviour, to uncover the cultural "paths" trodden by the locals. However, there are certain characteristics (detailed contextual clues) of the midden and the pottery in it that could denote activities more complex than the simple disposal of pottery, activities as deliberate as, and equivalent to, the late disposal of inverted and plate rims:

1. Sherds are deposited exclusively in the sandy levels.

2. The very low, almost negligible frequency of painted or plastic decorated pottery.
3. The "killed" pottery offering for the individual in Tumba 3;
4. The two *escudillas* or incense burners placed upside-down near Tumba 4,

Deposition in Sand

All these features, obviously including the burials, could be pointing to a methodical, conscious and intentional pattern of behaviour manifested in the area. The strict pattern of deposition of sherds on the sandy levels is a striking feature of this midden. Certainly there are Precolumbian sherds on the northern clay levels, but only in negligible numbers, as is evidenced in the severe drop in density of Precolumbian material from the sandy to the clay deposits. The lack of Precolumbian material to the north of the Plaza is too complete to have been caused by Colonial disruptions; thus it is possible deposition in that area was purposely less intensive, and that deposition was culturally restricted to the sand in the beach, at least in the area now occupied by the Plaza.

No decoration

The conspicuous lack of painted or plastic decoration in the Plaza midden is also evidencing a deliberate behaviour. In and of itself, this absence would say very little, but when compared to the higher frequency of decorated sherds, painted and plastic, in the contemporary Morelos occupation and in Biese's site, it can become an indicator of the selective discarding of pottery in the Plaza, where only undecorated pottery was discarded[43]. There is no doubt that decorated pottery was available to the local potters, and that both foci of occupation – the Plaza and Morelos – are contemporary; consequently the absence of decoration in the Plaza assemblage is more than mere coincidence and must be explained in cultural terms. This difference in disposal pattern of decorated pottery could be ascribed, momentarily, to two reasons: a) a social difference, that is, decorated pottery was more available to the people living at Morelos than to those at the Plaza, because of differences in social status, rank or wealth; b) ideological (religious?) reasons, in that there existed a rule against the deposition of decorated pottery in the Plaza. For the moment, alternative b) is considered the most likely, since the burials in the Plaza most probably represent high-ranking individuals and some presented undecorated pottery as offerings, thus disqualifying undecorated pottery as exclusive to commoners or those of low status (see Walker and Lucero 2000:133 about the dangers of obvious interpretations). Even though the burials intrude in the midden, it is impossible to say that pottery deposition ceased with the introduction of burials.

Killed pottery

In keeping with the theme of a possible ritual or religious use of the beach, there is the case of Tumba 3, where the *undecorated* pots over and under the thorax were broken or "killed"

intentionally[44] (Fig. 5.23. and 5.24.). If only undecorated pottery could be thrown away in this area, could the behaviour seen in Tumba 3 be extrapolated to other places in the deposit? The ritual killing of artefacts was a widespread custom among Precolumbian Panamanian Indians (Cooke et al. 2000:156; see also Briggs 1993:160; Linares 1977:60-61), which goes hand in hand with the burial of important personages, and the performance of rituals in commemoration of the deceased (it is unknown if these rituals could be performed as well for those deceased long before). In La Peña site in Veraguas, there is even evidence for the supposed killing of gold artefacts (Cooke et al. 2003a:121) In Sitio Conte, the largest necropolis found to date in the Gran Coclé, Linares states that it would not be difficult to imagine crowds of people gathered at the edge of graves, not only contemplating or admiring the offerings for the dead, but also actively participating in the funerary ritual by burning and trampling art objects, in a phenomenon observed the world over, well documented for instance in the Northwest Coast tribes of the United States (Linares 1977:61). In Costa Rica for example, people seem to have spent much time visiting graveyards to participate in post-interment activities (Briggs 1993:150; Sheets 1984:210), so graveyards, much like today, could have remained active and dynamic places where people paid visits to honour their dead, visits which could have included a number of activities, such as pot killing, the placement of offerings and even sacrifices for the dead.

Escudillas in funerary ritual

The location of two *escudillas*, carefully placed upside-down in the midden in the vicinity of Tumba 4, also points to a deliberate activity, most probably dealing with funerary rituals. Their placement in that area, in such a position, cannot be a coincidence, rather the evidence of some activity, possibly religious, having to do with the nearby tombs; in other words, it is unlikely those *escudillas* were placed there by people who were unaware of the existence of tombs nearby. One of the *escudillas* is decorated with white paint over an unslipped, polished surface.

These features obey patterns too methodical and long-lived to be coincidences. It is thought instead they are the evidence left by deliberate behaviour for a considerable time span (AD 1000-1300 or more) in a place used as something more than just a simple rubbish dump. The disposal of almost exclusively undecorated pottery, only on the sandy beach, mixed with pot-killing rituals and the ritual placement of pottery as funerary paraphernalia, could have experienced diachronic changes such as the one supposedly evidenced in the modal history, that is, a change in what kind of pots could be disposed of in the midden. Assuming an exclusively domestic use for most of the plain undecorated ware is proof of how sometimes assumptions about the use of ancient pottery derived only from their decoration or form can be misleading. This "domestic" pottery

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[43] Analysis of the Morelos materials is still underway, yet access to the material spread out in the Patronato Panamá Viejo laboratory tables revealed that in almost every bag of pottery that came from the field, there were at least 3 or 4 sherds with painted or plastic decoration, while in the Plaza there were hardly any decorated sherds at all.

[44] These were later reconstructed and found to be complete; considering that the *olla* under the lower extremities survived intact, breakage due to pressure from overlying deposits was dismissed.

could also be involved in other uses, or have other meanings (Walker and Lucero 2000:133; also Briggs 1989), as shown by the above discussion, or in the offering of Tumba 1, with two plain, undecorated *ollas,* that one could presume would belong in a domestic, not funerary context. Unfortunately this will all remain speculation until better contextual precision can be ascertained for the Precolumbian Plaza, a project that could perhaps be best achieved through a large open-area excavation instead of test pits.

Thus, the apparent change seen in the modal history, that of the introduction of the inverted and plate rim in phase 2 – if accepted – could also be interpreted as another intentional behaviour, given support by the above arguments and data (contextual clues), even if the connection between these patterns seems tenuous. Perhaps initially only everted rim containers could be discarded in the midden, and later in phase 2 times, the custom relaxed or changed allowing for the disposing of inverted rim pots. If this change was related to the other activities described above, then it could be representing a change in the ideology or the religious customs of the locals, or in the use of the area.

These other contextual clues are details – not easily recognised – that could have also been observed with the taxonomical history, yet in their subtlety they are more akin to the seemingly inconspicuous changes seen in the modal history. The taxonomy diluted the rim forms into the type description, so their development became effectively undetectable in the chronology. It is the revealing of this fine detail that is the most important feature of modal analysis when building chronology.

Caveat

These ceramic histories, especially the modal history, were constructed comparing both samples from the Plaza, the larger 1998 sample with its rough stratigraphy, and the smaller 1999 sample with arbitrary 10 cm level stratigraphy. The latter gives a more detailed picture, but its small size could be distorting the interpretation. It could be argued that the larger samples from the upper stratigraphic levels from 1999 are likely to include more diversity of forms or attributes because of the larger sample sizes. Consequently, it is just as likely that in the 1999 sample the modes claimed to be present exclusively in the upper levels, were also present in earlier levels, but were not recovered because of the smaller sample size from the lower levels. In fact, these less popular modes do appear in the lower levels in the 1998 sample, but its coarse stratigraphy can throw off conclusions as well. There is also the problem of the disturbance of the deposits through natural (bioturbation) and cultural (Precolumbian, Colonial and modern) agents that may affect the deposition of the pottery and thus the histories that were built.

This discussion seeks to highlight the perennial problems of sample size and stratigraphy, which should be addressed explicitly. Searching for change in a sample as homogenous as this is

difficult given these conditions (small sample and controlled stratigraphy; or large sample and poor stratigraphy), and it is certainly not as amenable or fruitful as with assemblages displaying wider formal variation. But casting away homogeneous assemblages into the unclassified pile is not a solution to the problem either (a common practice in Panamanian archaeology, for example at Sitio Conte, see Briggs 1993:160, Linares 1977:43). What happens when, as in the Plaza of Panamá Viejo, undecorated pottery conforms the majority of the assemblage and there is nothing else to work with? Is one supposed to ignore the site and the sample and search for another more "convenient"? This is a luxury few can afford, and although not all samples are suited to answer all questions, experimenting is the only path to find out. The only way then, of testing the veracity of either classification would be to excavate a similarly sized sample as the 1998 sample with controlled stratigraphy in an open area excavation, an ideal situation that, as is usual in many archaeological projects, was impracticable at the time.

Plastic decoration is an important part of the Eastern Region ceramic vocabulary, where through plasticity, "potters achieved superlatively sophisticated examples of ceramic art" (Cooke 1973:401, translation by the author). And certainly, decoration is better suited to study not only symbolism and the conveyance of meaning, but it is also more amenable for a diachronic modal study that wishes to achieve thin chronology. The continuities and discontinuities in plastic decoration, like those in the Central Region's painted decoration, are very useful chronological markers. Nevertheless, Panamá Viejo's ceramic assemblage is one in which plastic, or for that matter any decoration, is a minority. And even if decorated pottery offers more detail to build chronology with, undecorated pottery also has the potential to offer subtle and inconspicuous changes that, if overlooked, could throw away valuable information.

In the case of Panamá Viejo, the shallowness of the deposit does not allow for much temporal depth. But in other cases, such as Braun's study of the development of pottery in the American Midwest (1987:164-173), he demonstrated how the diachronic change (continuous and discontinuous) of an apparently inconsequential attribute such as wall thickness in a domestic pottery allowed for the construction of five temporal phases. The fact that this attribute was not useful in Panamá Viejo, does not predict its futility in other ceramic assemblages.

Both classifications illustrate a pottery assemblage where continuity rather than change predominate. Even the modal chronology shows, if accepted, a minimal amount of qualitative, discontinuous change. Whilst in the past this situation was seen as the norm, nowadays and following the discussion in chapter 1, it can be seen as the result of an active social process curtailing change and maintaining a long-lived preference for the same kind of pottery. This apparent stability will be discussed further below.

The argument put forth here is not that the modes marking phase 2 were introduced as new elements in the modal vocabulary, rather, that they were introduced into the midden through a change in depositional customs. This interpretation obviously depends on the above discussion of sample size, excavations methods and the resulting modal counts. On the other hand, the taxonomical classification may be said to have missed this possible change, no matter how large the sample or detailed the stratigraphy. Even if both classifications show a very similar, homogenous assemblage, the taxonomy could not describe such small modal change. So a balance must be worked out between both classifications: the modal chronology can be more helpful in defining thinner slices of time, while the taxonomical wares can be better integrated with the extant Eastern Region typology.

Gran Darién Pottery History Summary

This dissertation does not intend to say that the extant chronologies built in Panamá are entirely flawed or useless. They have indeed helped to understand the immense array of evidence recovered from the Panamanian past. They have clarified the temporal picture up to a point where thin slices of time have been achieved, the thinnest being almost 100 years, especially in the Central Region where Richard Cooke's work has now become the standard for proper archaeological research. Yet it is their spirit or inspiration that needs revision, as well as their methods in order to reach a better understanding of Panamanian prehistory. Especially in the Eastern Region present classifications of plastic decorated material are poorly dated and offer little temporal resolution to be of use, a situation compounded by the deliberate avoidance of working with the undecorated material, which forms the overwhelming majority of the assemblages.

Plastic decoration is supposed to be widespread and more popular than painted decoration in Eastern Region sites during the 1st millennium AD, because all the known plastic decorated types are dated to this period except the Votive Ware, well dated in the 2nd millennium AD. There is nevertheless evidence, especially in the more westerly parts of the Eastern Region, of Gran Coclé influence through the incursion of imported pottery and painted decoration modes. It also seems that plastic decoration is favoured more in the Eastern Region than in the Central Region. However, the classification of Eastern plastic decorated types is not very elaborate or detailed, and their chronology is not based on absolute dates, but on tenuous stylistic and chronological associations with Central Region material. Furthermore, this supposed ubiquity and preponderance of plastic decoration is not sustained in the Panamá Viejo sample, and it would seem that within Eastern Panamá in the 2nd millennium AD, plastic decorated vessels are less frequent than plain, undecorated vessels.

In sum, with the available information, plastic decoration does not seem to be the only representative, characteristic attribute of the Eastern Region in the 2nd millennium AD, nor even earlier. Rather, one would suggest that if there is a pervasive, characteristic surface decoration attribute throughout Eastern Region history, it is precisely the lack of sophisticated decoration. The reddish coloration of the pottery was achieved by not decorating, simply polishing, or thinly slipping the red coloured clays found all over the region. This undecorated tradition is observed at all the sites in the Eastern Region mentioned in this dissertation, in contrast to Central Region sites where polychrome pottery predominates. The conscious choice "not to decorate" has usually been dismissed by archaeological classifications, because it is expressed in the plain, undecorated pottery, but this new focus may designate its rightful place within the conceptual repertoire of Eastern Region potters. Even the plastic decorated pottery is usually left unslipped, showing the red colour of the paste as the Votive Ware or the gourd effigies from Tumba 10, Martinambo and Cupica show.

This undecorated monochrome tradition discussed in chapters 3, 6 and 8, pervading most of the pottery assemblages in the Eastern Region from at least the 8th to the 14th centuries AD, can be seen not as cultural conservatism and stagnation, but as cultural prowess and endurance. A long-lived group of polities or peoples that although in constant contact with each other and entities from further afield and open to cognitive exchanges, was able to keep a core of traditional content untouched for several centuries, not through weakness or lack of imagination, but rather an active social mechanism of preserving cultural taste for not decorating pottery. It is possible this conservatism in pottery decoration is related to the longevity of the same ethnic groups or socio-political systems for hundreds of years (Fitzgerald 1998). More possible evidence for how durable were certain aspects of these cultures will be reviewed in Panamá Viejo's most spectacular find, Tumba 1.

The funerals of Tumba 1

Tumba 1 was the first Precolumbian feature found by the Patronato Panamá Viejo excavations, the most complex tomb found to date in the site, and one of its most fascinating and stimulating archaeological features. The implications carried by the associated material that accompanies it seem to support the proposition presented above, that of the longevity not only of the settlement of Panamá Viejo, but also possibly of its socio-cultural constitution and political organisation. Taking into account the absolute dates listed in chapter 5, and assuming they are correct – and there are no convincing reasons to doubt them – the resulting picture is a complex one: that upon the death of the woman in Tumba 1, sometime in the 13th century AD, the people of Panamá Viejo had been keeping at least one of the other skulls – Individual 9 – for almost 600 years. Furthermore, the pottery offering found directly above her skull post-dates her death by 200 years, implying a long-lived funerary ritual associated to her remains and place of burial.

The burial

The osseous material of Tumba 1 was very fragile even though its preservation was surprisingly good. Lifting and transportation of the bone remains to the laboratory was a very difficult matter that required help from the conservation department of the Patronato, involving *in situ* consolidation before they could be moved. Thus, it is unlikely that the skulls under Individual 1 proceed from other burials. The idea that some of these skulls were already underground when the shaft for Tumba 1 was excavated, and that they were then seized to form the offering for the woman is not viable because moving them would have caused their destruction, like the skull of Individual 3, which was raised without consolidation treatment and thus disintegrated. An example of similar behaviour from La Ceiba, in the Greater Nicoya Area of Nicaragua, documents the use of the same burial area by a family or clan, with the primary articulated individual being the most recent interment and the other osseous materials representing previous burials (Lange 1992b:124). Although the behavioural pattern is similar, the skulls of Tumba 1 most likely did not proceed from other burials, but were safeguarded elsewhere, like the mortuary houses of Cueva chiefdoms mentioned in chapter 4.

It is also possible that the pottery offering above the skull was not intended for the woman, and that it just represents a re-utilisation of the burial space, but the evidence points to the contrary. When the pottery offering above Tumba 1's main character was excavated, the burial underneath was unknown. The last vessel to be removed, vessel 4, lay immediately over the woman's skull. That is, there was no soil between them, no dirt was removed after lifting vessel 4 to expose the skull because they were in direct contact. So it was quite an unexpected surprise to suddenly find a human skull beneath what had been assumed would be the last vessel from a supposedly isolated pottery cache. We never expected to find a Precolumbian burial in the heart of Panamá Viejo[45].

The idea that the offering represents a re-utilisation of the burial space, and that it was placed directly over her skull by sheer coincidence is, in light of the apparent importance of this woman, not realistic. The odds of the pottery offering being placed exactly there, by accident, and not elsewhere are infinitesimal. If the woman's skull appeared to the archaeological team upon the removal of the last pot on the offering, then whomever accommodated the pot there must have seen it too, indicating knowledge of the tomb's location. There is then the possibility that this offering or cache was placed there in commemoration of this important and venerated personage. Whether the date on the offering is wrong or not, is another matter, and for the moment it seems as if it was intended for her.

[45] The discovery of Tumba 1 was quite accidental. It came about when a team from the Department of Physics from the Universidad de Panamá, led by Proffesor Eduardo Caballero, was invited to Panamá Viejo to test out their remote

Ancestor Cult

The offerings and rituals evidenced in Panamá Viejo very likely demonstrate a cult to the dead, which is by extension, also a cult to the ancestors (Oliver 1997:147). This cult has many material manifestations that can be archaeologically documented in cultures around the New World, and the features alongside Tumba 1 can be fitting examples of it. In the first place, the skulls the woman rested on could be the preserved remains of the village's ancestors, considering one of them dates to the mid 1st millennium AD, antedating the woman by almost 600 years. These skulls attest to her importance in life and death; in Precolumbian Panamá it is regularly the elite who are accompanied by numerous human remains. The practice of keeping the skulls of ancestors or using them as funerary paraphernalia accompanying the dead has been documented elsewhere, for instance in the Maya site of Mayapán, the "Cocom dynasty was reserved the practice of mummifying the heads of their defunct lords, these being kept in the family oratories and fed at regular intervals" (Coe 1993:170); in Cuba there is a documented case of "a number of crania...arranged in a circle" around the bones of extended burials (Rouse 1992:60). The Cueva are known to have kept the desiccated remains of their deceased chiefs, as Andagoya witnessed in the mortuary houses of Comogre and Chimán (Romoli 1987:143-144). In chief Paris's burial, in the Central Region of Panamá, the bone bundles of two other chiefs were buried with him (Torres de Araúz 1992:36).

For the Taino of the Caribbean, ancestors formed the basis by which they defined themselves in the world of the living and served as the only real, personal linkage with the sacred other-world. Without ancestors, there could be no social order because the roles performed and the positions occupied by individuals in the present society were strictly defined by those ancestors, who organised the ordinary world into a coherent, functioning society (Oliver 1997:148). Numerous world-wide examples show how the ability to trace ancestry far back in time, including mythological time, can facilitate the access to, and the preservation of power; genealogical relationships to sources of power are used to justify noble identity (see Wolf 1999:55, in Hoopes and Fonseca 2003:49). The link to ancestry is such an effective tool in the competition for power and status, that some people go as far as appropriating the remains of the ancestors of others and claim them as their own (Linares 1977:60-61; Helms 1979).

Thus if the woman in Tumba 1 wanted to reinforce her rank and status, and/or that of her lineage, what better way than to have herself accompanied by the skulls of revered ancestors. In a society that apparently did not give any burial treatment to commoners, these skulls were possibly the carefully guarded remains of important people, who were not necessarily directly related to her

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sensing equipment. They scanned with resistivity detectors the stratigraphy under the houses to the west of the Plaza, and detected an anomaly in their readings 1 metre below the surface which, to our surprise, turned out to be Tumba 1.

(there is no evidence yet of genetic relationships, so a DNA analysis might reveal interesting details).

Another possible manifestation of the cult of the ancestors can also be the offering placed over Tumba 1, supposedly 200 years after her inhumation. By then, she could have in turn been a revered ancestor herself, meriting respect and post-interment activities in her honour. The placing of caches in honour of the dead is a well-documented practice in Mesoamerica (Culbert 2003:50), in many of the tombs and funerary monuments of Maya royalty, such as the tomb of Pacal where cache offerings of jade, pottery ad shell were deposited (Schele and Miller 1986:282). Mapuche groups in Chile organise funerary rituals for the ancestors around the burial mounds of ancient chiefs, placing additional layers of soil and also lineage-specific grave offerings around a corpse and in the soil layers overlying a tomb; participation in these rituals, among other things, help maintain relationships between related lineages (Dillehay 1992:400-405). This speculation obviously depends on the validity of the absolute date for the offering.

The date of the pottery offering is statistically similar – to a 95% level of probability – to the date of Tumba 6. It could be speculated that both activities, the pottery offering and the laying down of the young person in Tumba 6, were if not contemporary, very close in time, and related to Tumba 1. Consequently, both activities could be regarded as forming part of religious rituals, possibly having to do with a cult of the ancestors. The unusual disposition of Tumba 6 and its proximity to Tumba 1 suggested – tentatively – a sacrifice or an offering to the woman laying a metre or two away to the north (see above). Laying at Tumba 1's feet, hunched over, it resembles the burials of sacrificial victims so commonly reported by the chronicles in Panamá, and is also documented elsewhere in the New World. The sacrifice of children and adolescents to accompany the tombs of the elite, as in Tikal for example, was also common in the Maya religious world (Coe 1993:81); captives were mutilated and eventually killed as a blood and flesh offering "to the gods and the *ancestors*" (Schele and Miller 1986:210, author's emphasis). The Inca of Ancient Perú also sacrificed young people and women in dedication ceremonies for the deities, and interred them in locations such as mountaintops or temple mounds (Dransart 2000:84-85; Olsen Bruhns 1994:340; Shimada et al. 2000:31). What implications do these features carry for the possible uses of the Plaza and the site in general? What are the implications also for the society of Panamá Viejo during Precolumbian times? These matters are discussed below.

The lasting polity of Panamá Viejo?

Even if the Plaza midden, containing the bulk of the material studied in this dissertation, was formed between AD 1000-1300, the woman buried in it is accompanied by the skull of a person that lived when Biese's site was occupied, ca. AD 500. The ability to safeguard the fragile remains of important individuals for so long a time indicates certain conditions that in turn have implications on the kind of polity existent at Panamá Viejo. To begin with, there must have been

a structure (mausoleum, house) or place to keep these remains, and somehow either it or its contents were preserved from the mid 1st millennium AD, until at least the death of the woman in Tumba 1 ca. AD 1200; this preservation in turn points to the prolonged survival of the tradition or ideology which deemed these remains as worthy of keeping, and may also include, by extension, the permanence of the "people" who carried these beliefs (this in some way corroborates the aforementioned longevity and continuity of the settlement at Panamá Viejo). However, at this point speculation as to whether this longevity also applies to the political organisation of Panamá Viejo – whether it was a simple ranked society or a chiefdom – is futile, because the longevity of an ethnic group and its material culture does not imply political stability; yet this political entity – whatever it was – could be seen to show stability in that both marked social inequality expressed in differential funerary treatment and the avoidance of the state lasted, like in much of the surrounding Intermediate Area polities, for hundreds if not thousands of years (Fitzgerald 1998; Lange 1992c).

Additionally, more evidence than just one burial would be needed to further support the argument of socio-political longevity. One possibility could be that this supposed social and ideological stability may be also reflected on: the conservatism and lack of change of the pottery of Panamá Viejo, and the long continuity of occupation of the site discussed above. The conservatism of pottery, or "continuity of material culture" (Cooke 1984:287), may sometimes be assumed to go hand in hand with the apparent stability of socio-political and ideological formations, yet pottery alone cannot corroborate the argument of longevity since in the Central Region, for example, supposed socio-political stability (avoidance of the state) is set against the backdrop of a constantly changing taste in the decoration of pottery. The settlement could have grown in size in a continuous occupation from the 6th to the 15th centuries AD, but "the regionally homogeneous and indigenous technical traditions of ceramic and other artifactual production are not evidence of homogeneous social dynamics and mechanisms of social change" (Briggs 1989:157).

For reasons of space this dissertation cannot delve into the persistent debate about the existence or not of chiefdoms in Precolumbian Panamá. Some argue that evidence of marked social inequality – in Panamá Viejo, the culturally caused differential and lengthy preservation of human remains – is not enough to definitely prove the existence of chiefdoms. Cooke argues that the data from Sitio Conte for instance – the richest necropolis found to date – and other sites in Central Panamá, accords more satisfactorily with a concept of contingent political systems lacking permanent centres of power, than with incipient states ruled by hereditary elites (Cooke et al. 2003a:136). The unresolved question hence remains not why did they not become states, but rather how did they avoid statehood for so long (an issue partly explored by Fitzgerald [1998] among others).

Stability and conservatism occurred in spite of evidence that Panamá Viejo exchanged and accepted ideas, goods and people with its neighbours in both directions, east and west, in a

dynamic interaction between polities and semiotic traditions as seen in the above section on external contacts. The new evidence for stability from Panamá Viejo (osseous and ceramic) induces one to think that the change in economic relationships across the Bay of Panamá (seashell replaced by gold in importance) may have affected sites differentially, possibly not having much effect on the commercial or ideological needs of Panamá Viejo: Tumba 1's *Spondylus* necklace could be hinting that perhaps the local elite did not view gold exclusively as the ultimate expression of status, as is also supposed to be the case at Sitio Conte, where gold shares almost equal importance with seashell artefacts accompanying the dead (Briggs 1993:160).

Sheets lists what he thinks are the achievements of Intermediate Area societies, among which are the avoidance of the state, greater societal stability, smaller polities (geographically and demographically) and the maintenance of egalitarian and simple ranked societies (1992:20). The evidence outlined above may point to the survival of the ideological and socio-political structures of the Panamá Viejo polity, with relatively little change for at least 700 years, from AD 500 to 1200, and possibly more. If the pottery offering of Tumba 1 and Tumba 6 were in effect placed there ca. AD 1500, did they belong to the same tradition, ideology and society that buried the woman ca. AD 1200, and guarded the skull of an individual ca. AD 500? A positive answer may identify those cultural remains as Cueva, because it was Cueva who met the Spanish in 1515, but more research and evidence is needed to support this argument.

If the area of the Plaza in general, and around Tumba 1 specifically, remained in use for religious purposes, it raises the question of the function of the refuse dump and of the pottery. If this were a burial ground, would they have continued to discard broken domestic pottery there? Was the area first a rubbish dump and later a burial ground, or were both uses permanently simultaneous? Were the pots just rubbish or were there rituals celebrated around the tombs, which included killing purpose-made pots? The almost complete absence of decoration, painted or plastic, is suspicious and most likely evidencing a deliberate behaviour, but it is not enough to indisputably define the activities taking place or the context. No housing remains have been found yet, and they may never be in the soft and porous sandy matrix of the Panamá Viejo beach. Thus contextual precision is hard to achieve in this zone of the site, the only certainty being that there is a funerary context, and very likely a domestic one too, but to chronologically or spatially isolate them is for the moment impossible.

In sum, the occupation of the general area of Panamá Viejo could have lasted for at least 1000 years, from ca. AD 500 to 1500, and conceivably even earlier (Martín Rincón 2002b). Biese's site was occupied at least since when IRBW pottery was in use; the beach midden formed later, from AD 1000 onwards. It is thought these two occupations do not represent different occupational episodes by different peoples, but instead the prolonged occupation of the same area around Panamá Viejo by, most probably, the same group of people (Cueva?) from at least AD 400

to the Contact period. They were keeping the skulls of important personages during the 6th and 7th centuries AD, burying them with other important people – perhaps descendants? – in the 13th century, and still making burial offerings to these same people just before the Spanish abruptly interrupted these processes.

Two alternatives spring to mind concerning the veracity of the ideas put forth here: either the dates are wrong and the above interpretation is spurious, or the dates are accurate and these considerations are a likely scenario. The first alternative would mean that there are several erroneous dates, namely those for the pottery offering of Tumba 1, that of Tumba 6 and that of Individuals 9 and 10, while the latter seems to fit well with the ceramic data from the site, and archaeological data from elsewhere in Panamá. However, and as a warning, the overlapping of the dates from Individual 1 and 10 from Tumba 1 give cause for alarm and caution when taking absolute dating at face value, considering its vagaries and error ranges.

This new history would also put into question the description set forth by the Spanish, and still in the popular imagination, of the "miserable" village of Indians. A settlement that possibly occupied an area – at least during the 10th to the 14th centuries AD – almost as large as or larger than the Colonial town itself, from the Plaza to the Morelos monument and beyond, would have been anything but miserable. What "miserable" means is unknown exactly, but most probably, upon the Spanish's arrival at Panamá Viejo, most of the inhabitants had previously either fled or died from disease, resulting in the "miserable" appearance. The Spanish were probably received by a small group of bewildered, traumatised, ailing survivors who were witnessing the disappearance of their entire world.

The ceramic modal history fits in well with the one obtained from Tumba 1. It is a history of a substantially homogeneous ceramic assemblage presenting very subtle, almost undetectable changes for a prolonged period of time, paralleling that of the stable, homogenous settlement at Panamá Viejo, that experienced gradual, subtle changes in its social, political and ethnic fabrics, growing from a smaller occupation to a large nucleated settlement without major political or social disruptions or discontinuities (that allowed for the preservation of ancient human remains) and avoiding any more complex forms of socio-political organisation.

Conclusions

Time: taxonomical vs. modal resolution and long vs. short scales

It has been proven how different analyses of artefacts create differently scaled and in essence different accounts of the aspects of past societies focused on. Coupled with preconceptions about what history is or ought to be, the resulting histories can not only offer a misleading picture of

events, but also reify those preconceptions. In essence, this thesis has been a step-by-step check-up of archaeologists' biases, trying to, it is hoped, account for them when building history.

Both methods of classification, by themselves, construct time and histories differently. The main difference is one of detail or diachronic resolution. Now it is up to archaeologists to ask themselves which one suits their needs best. The suitability of a certain method has to be weighed against other issues, such as the aims of the study, and also their practicality. Thus, although a modal analysis can better achieve certain goals, it is more time consuming and thus can become prohibitively expensive (Borgogno 1980). In the context of restrained budgets, rescue archaeology, and rushed excavation projects – such as is becoming increasingly frequent – it is hard to reconcile the needs of a fast-paced archaeology with a lengthy modal analysis. It appears thus that an approach that combines the strengths of both methods can best construct detailed histories and ceramic characterisations. Consequently, modal analysis could be used for powerful chronological precision and comprehensive description, while taxonomy is applied for effective synthesis of the material and effective inter-site comparison of results. In areas with long-standing ceramic classifications, the type-variety:mode analysis has proven to be the best approach.

The phases created represent chunks of time according to the development of pottery, and a phase built from modes is as close and as sharp an observation as can be achieved of change as it occurred in the agent's "mental template", because the mode is the smallest unit possible to track change, denoting the potter's indivisible, individual decisions (conscious or unconscious) when making a pot, the path trodden and the forks taken in that road. Unless absolute dating techniques improve so that ever more accurate dates and smaller deviation ranges are achieved, this is as far as one can go in temporal resolution.

In the specific case of Panamá Viejo, the taxonomical history missed the existence and subtle diachronic change of the less popular, diagnostic attributes such as the modes of rim shape (be they incurving or everted). Surely the rims would have been detected in the upper levels, but this is detail worked out only after the taxonomy and the history are built, and it will be absorbed into the type description. A modal history catches these small changes from the beginning of the procedure. In the taxonomy they would have been classified along with all the other sherds into their different wares, and types, their presence and temporal sensitivity diluted in the phases built in a history that is effectively measuring surface decoration. The two modal phases appear because of the discontinuities in the modal record, and this is the most powerful and accurate tool to measure diachronic change. Of course, in seeking a thinner chronology, the always important and significant issues of sample size, context definition, and site formation processes cannot be stressed enough.

A modal chronology is best suited to study time and events at the short-scale. It also follows that if the chronology were built out of the modal clusters and not the unbound modes, the same problems as with the taxonomical history would appear, namely, the loss of resolution through the measuring of only certain attributes over others. However, this synthesised chronology may be more suitable to study larger-scale events, which is one of the advantages of a taxonomical classification of modal clusters into larger groups of integration to study region-wide trends. This integration or synthesis is unavoidable if the aim is to compare the Panamá Viejo sample against the rest of the region's assemblages. A modal history may be helpful in revealing micro-chronology, but over the Eastern Region it would be unfeasible to handle all the information without some sort of synthesis, provided by a taxonomical order grouping modes in a macro-chronology.

Non-linear History

Investigating the long-term process has been for many years one of the main goals of archaeology. As discussed before, it has been done sometimes at the expense of the short-term event, and even of the human beings or actors themselves. They are somehow lost in the long-term trends and the invisible "structural" hand that is supposed to control humanity, and this is no surprise, given that in archaeology most evidence comes in the form of aggregations of human activities that accumulated over long periods of time. A non-linear approach to time and human dynamics, coupled with a modal analysis, can reveal that the episodes within these aggregates represent not static transitions between one progressive state of things to the other, but ripples in the ebullient pond of a humanity embedded in space and time. A record of the perpetual, sometimes-capricious changes in human decision-making.

The non-linearity of history and human dynamics is well suited to give an entirely different twist to the development of Panamá Viejo's history. "Backwardness" or "lack of change" loose much of their erstwhile weight. The lack of pottery decoration no longer means that they somehow suffered a process of "involution", or were in a cultural decadence, compared to their neighbours in the Central Region. The main question no longer has to be "why did they not develop into a state?", rather "why and how did they manage to maintain chiefdoms for so long a time" (Fitzgerald 1998; Sheets 1992)? This goes hand in hand with Bray's claim that "the region from Chame to Cupica is beginning to emerge as a significant culture area in its own right and should not be considered a mere buffer zone between the high chiefdoms of Coclé and Colombia" (1984:331). A new image emerges, that of a materially and spiritually sophisticated culture that was able to maintain its taste in pottery decoration, beliefs and cultural heritage, including the fragile human remains of their ancestors, for a prolonged period of time.

Chronology in Panamá

In Panamá taxonomical analysis has expediently classified the material. Nevertheless, the temporal constructions that result from this classification can lack the detail and the resolution that would allow tracking short scale change in the archaeological record. This is why in recent years archaeologists working in the Central Region have started to use a modal (or type-variety:mode) approach in the analysis of the incredibly complex and elaborated polychrome designs that permeate Gran Coclé pottery (Isaza 1993, Sánchez 1995; Sánchez and Cooke 1997), which are perfectly suited to yield rich and detailed chronological information. Again, this dissertation is in no way trying to trivialise or demean the intricate taxonomical chronology worked out in the Central Region. Archaeologists have been working and refining it for more than half a century resulting in a very detailed picture of change. However, a fresh influx of ideas such as the modal analyses cited above can only improve the picture of this "Gran Coclé Semiotic Tradition", and the same is intended for the Eastern Region or "Gran Darién Tradition".

Panamá Viejo was in continuous occupation at least since ca. AD 500. An increased influx in trade items (vessels) or ideas (pottery decoration) from the Central Region is possible, perhaps not permeating the entire Gran Darién region, but most probably the settlements nearer to the "frontier", such as Panamá Viejo. Venado Beach for example, supposedly within Cueva territory presented a mainly Gran Coclé assemblage. The frontier between traditions, Coclé and Darién, was very malleable indeed. In Panamá Viejo the predominant item between ca. AD 950-1300 and possibly up to the Conquest, remains the plain, undecorated Red Ware, shared with many other sites all over the entire Eastern Region. However, this late period of Precolumbian history is poorly known, as is most of the Eastern Region. This presents a challenge and calls for renewed, sustained and systematic efforts to explore this too often ignored and forsaken half of Panamá. Through organisations such as the Patronato Panamá Viejo, the site of Panamá Viejo itself can become a centre from which the study of Gran Darién Precolumbian history could witness an enduring renaissance. The new research, information and tourism centre of Panamá Viejo on the outskirts of the site is already strengthening and ensuring the future of Panamanian archaeology.

It has been the purpose of this rather technical dissertation, not only to explore ancient Panamanian history, but also to study how archaeologists think and work with some of the most elementary concepts of the discipline: time and classification, which contrary to popular belief, do affect each other. It has gone through some of the procedures that archaeologists carry out often disregarding the theoretical baggage beneath them; concepts usually taken for granted, without realising how they affect each other and our work, and ultimately, the image the public perceives of history. It is hoped this thesis would foster a reconsideration of, and a lively debate over, theory and method in Panamá. With an almost virgin region to study, future work calls for a re-examination of theories, assumptions, methods, classifications, chronologies and histories. The history of the Cueva people and other ancient Panamanians has been forsaken for almost 500

years of prejudice and ignorance. It is hoped that bringing to the fore not only new data about them, but also a renewed way of building and looking at their history would only do them justice.

Appendix 1
Thin sections

This appendix deals with the thin sections prepared from a sample of 48 pottery sherds from the excavations at Panamá Viejo. The photographs are accompanied by the provenance of each sample, and a short discussion on the chemical and physical composition of the sherds. It is necessary to acknowledge here the terrific help of Dr. Dafydd Griffiths in studying and classifying the material.

The distinction made at a macroscopic level between red and white coloured paste, seems to be justified according to the data from the thin sections. Under the microscope there is a readily apparent difference between both sets of pottery, with the main difference being in the shape and number of inclusions.

The red coloured paste fragments generally show a high number of iron inclusions from iron rich clay deposits, which gives the slides a deep red appearance. The mineral inclusions in the red paste are very finely broken up, much more so than the white paste sherds. A distinctive characteristic is the presence of clay pellets, probably from another broken up clay source, with their own set of inclusions within. There are also quartzite inclusions from metamorphic rocks, with rounded edges. Red paste sherds have a greater density of inclusions than the white paste sherds.

The "slip" on the red paste sherds proved to be extremely thin, usually less than 0.25 of a mm. Sometimes it can be seen as an added layer of clay on the body of the sherd, but other times it is completely indistinguishable from the clay, just a darker tone of red, and this may be the difference between slipping (the former case) and burnishing (the latter). However, it is still very hard to distinguish between both treatments with the naked eye or simple magnification. It is very likely therefore that the intention of the potters was just to achieve a "reddish" appearance on the pot, without the means being necessarily important – either slipping or burnishing – as long as the surface looked red.

The white paste sherds present a completely different case. The paste looks "whiter" or less red than the red paste fragments, probably due to its high quartz content. It also presents feldspar and pellets of clay as inclusions. The inclusions in general are very angular, with fresh cuts, and of different sizes. Both quartz and feldspar inclusions sometimes present iron stains. In some cases, the quartz also presents undulose extinctions, which probably indicate a different geological source of unstressed quartz. The paste also presents elongate voids, probably the remainder of fabrics used for tempering that were later burnt out in the firing process. These voids produce a characteristic alignment of the particles seen in the white paste. When slipping is

present, it is readily differentiated from the clay, being a real red slip. It is very likely that these sherds are imported material from the Central Region, where white pastes are frequently reported, such as the recently defined Limón Type of pottery from the northern Coclé province (Griggs et al. 2002; Cooke et al. 2003b).

The single sherd of Colonial Majolica, Panamá Viejo Plain Type, is entirely different than the rest. Although the paste is very similar and so are the inclusions, the clay is much more densely packed. There is a lot of quartzite present, sometimes with dark splodges of iron rich clay. It contains few feldspar fragments, less than in the Precolumbian pottery. There is overall a lower density of inclusions, and they are finer grained.

All the pictures were taken by the author, at 4x magnification under cross-polarised light.

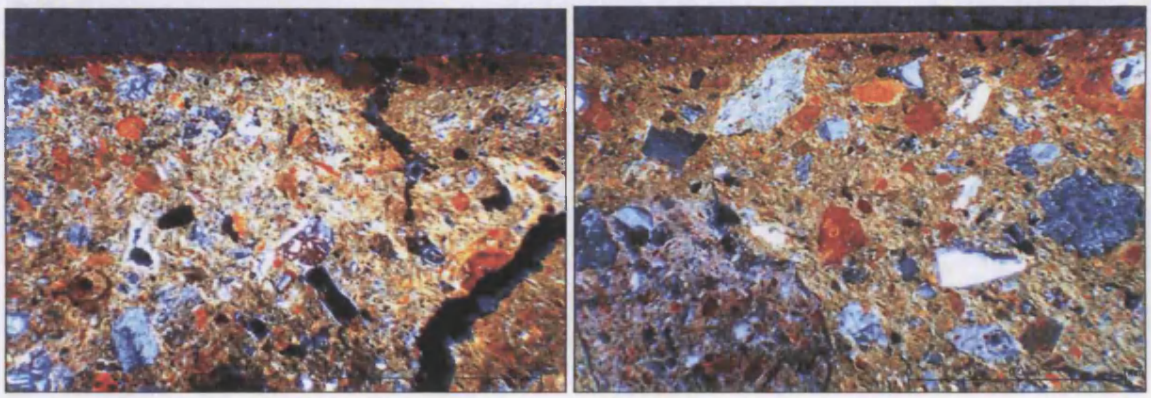

Fig. 1. 445N 1143.5E L4. Red coloured paste sherds. Notice the thin red slip on the surface, almost indistinguishable from a burnish or high polish.

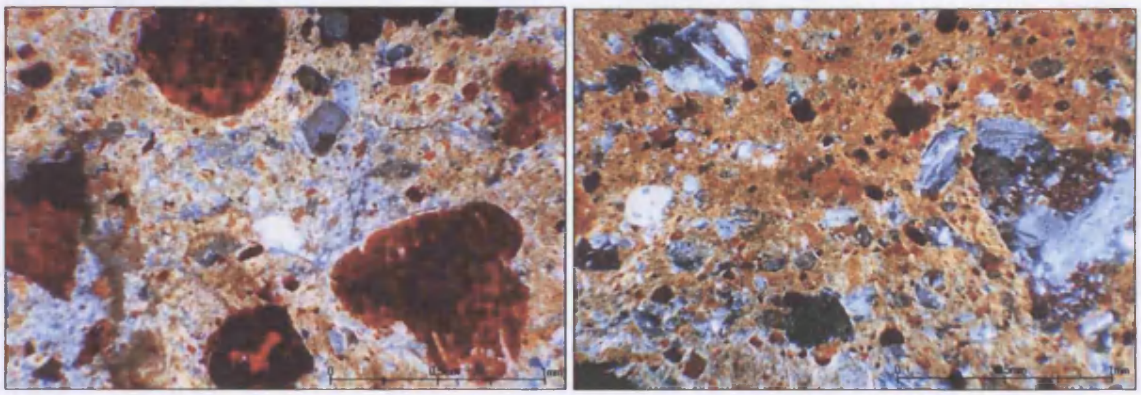

Fig. 2. 445N 1143.5E L4. Red coloured paste sherds. Notice the large red inclusions, which are iron rich clays (left). On the right, notice the large quartz fragment with other clays within. These sherds were unslipped.

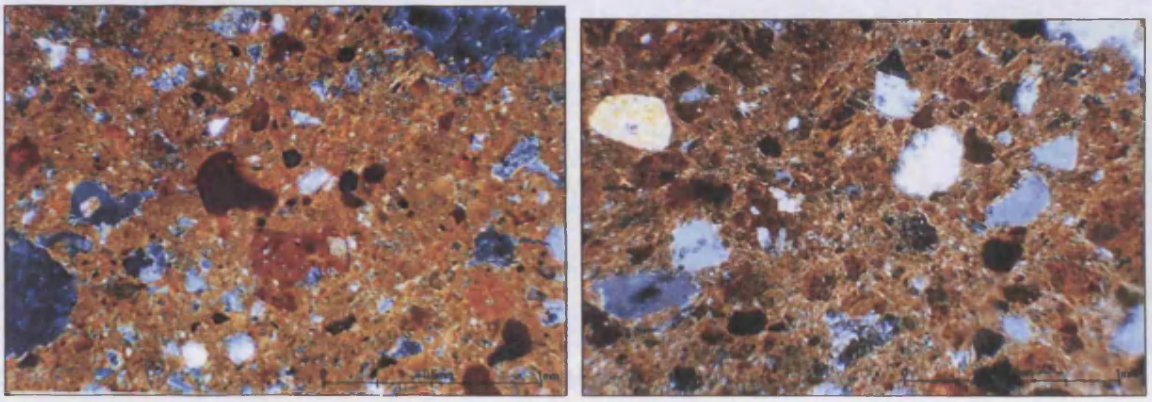

Fig. 3. 445N 1143.5E L4. Red coloured paste sherds. These sherds were unslipped. The difference in the colour of the paste is due to firing. On the left, the firing was more thorough than on the right.

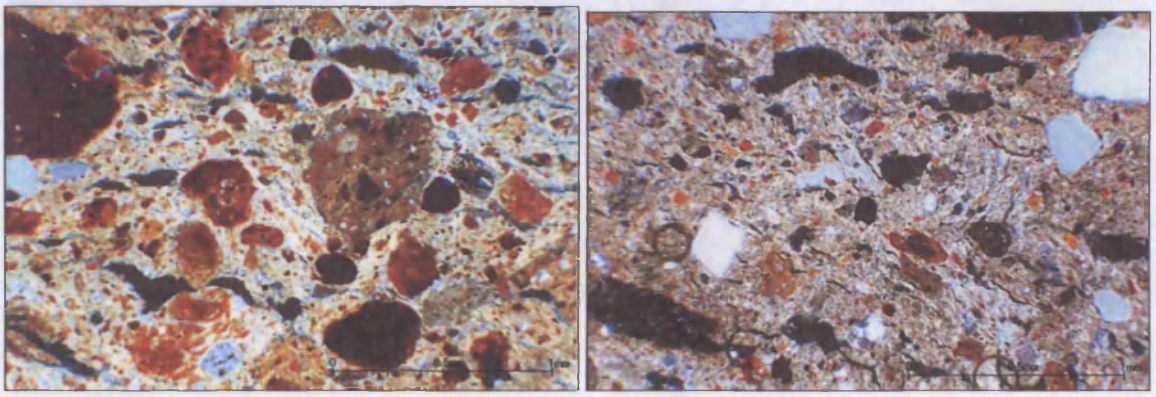

Fig. 4. 445N 1143.5E L5. Red coloured paste sherds. These sherds were red slipped.

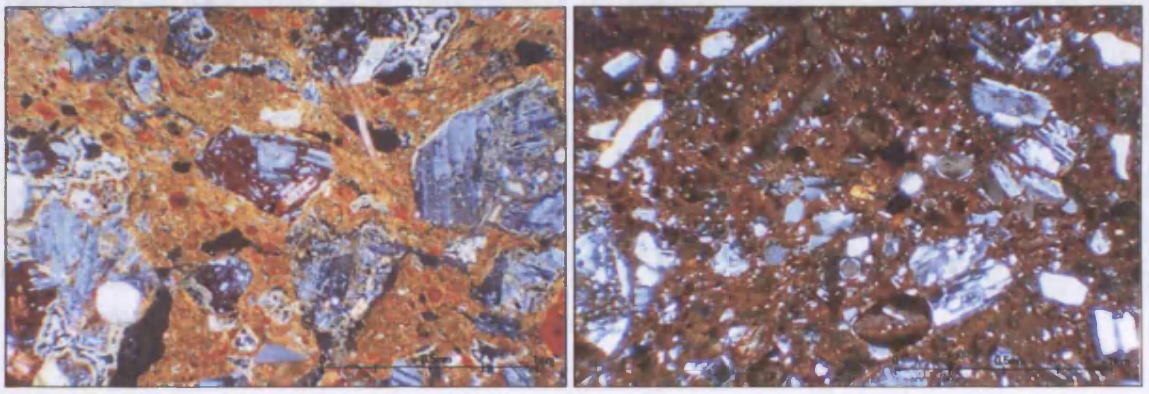

Fig. 5. 445N 1143.5E L6. Red coloured paste sherds. These sherds were unslipped.

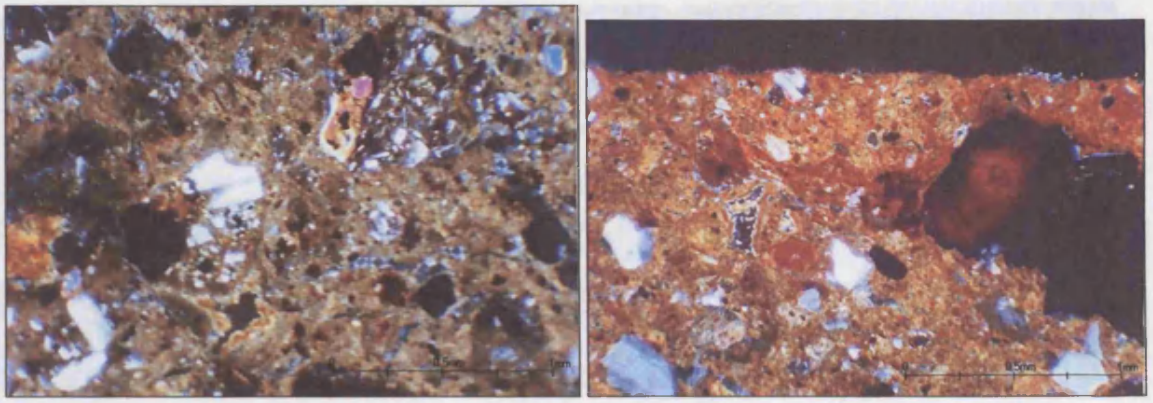

Fig. 6. 446N 1148.5E L4. Red coloured paste sherds. These sherds were red slipped.

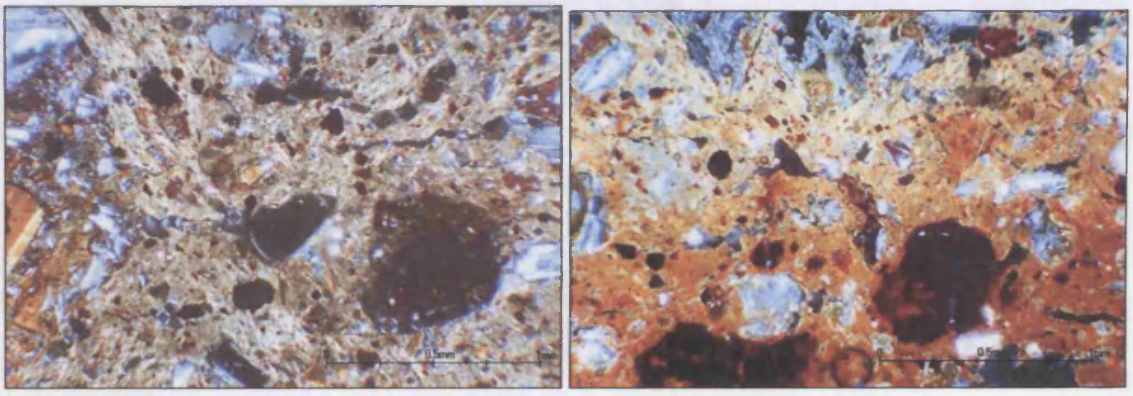

Fig. 7. 446N 1148.5E L4. Red coloured paste sherds. Red slipped (left) and unslipped (right).

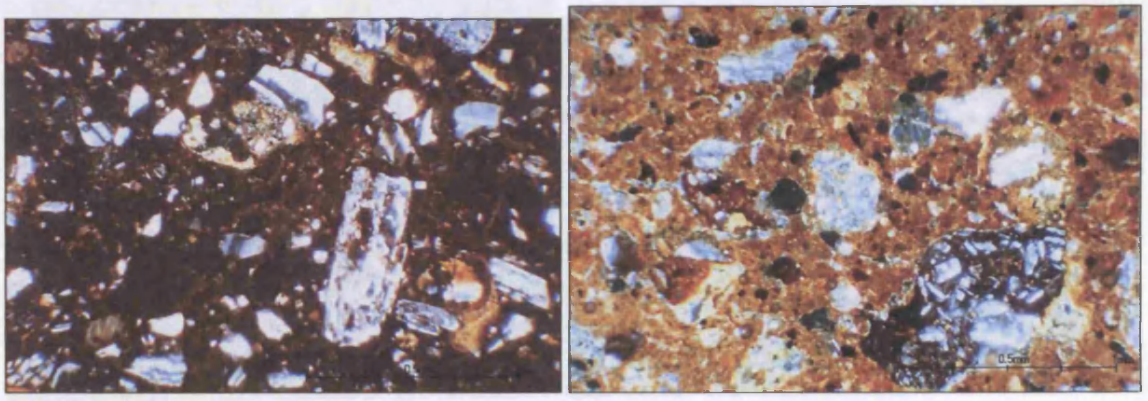

Fig. 8. 446N 1148.5E L4. Red coloured paste sherds. Unslipped.

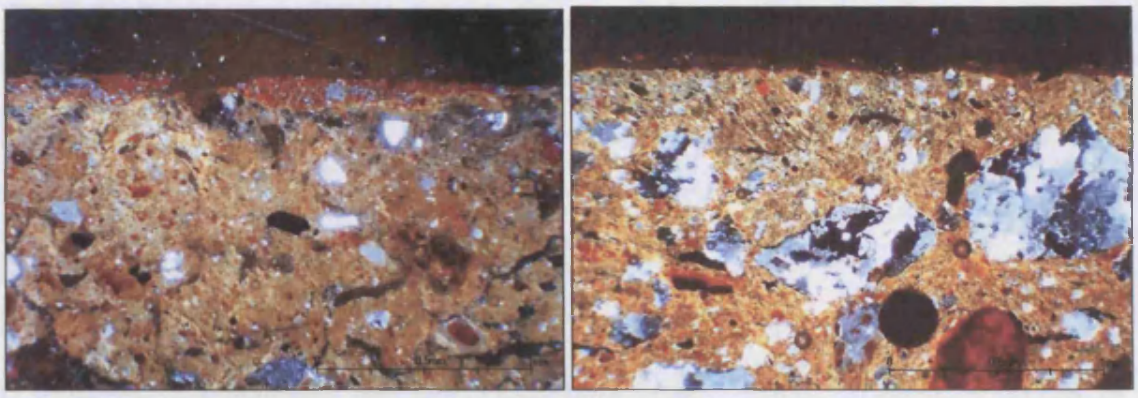

Fig. 9. 446N 1148.5E L5. Red coloured paste sherds. Red slipped.

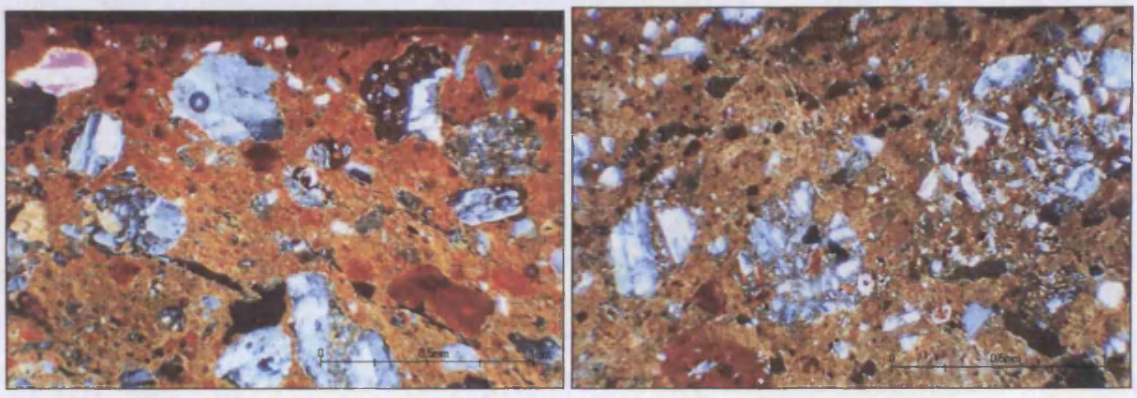

Fig. 10. 446N 1148.5E L5. Red coloured paste sherds. Red slipped.

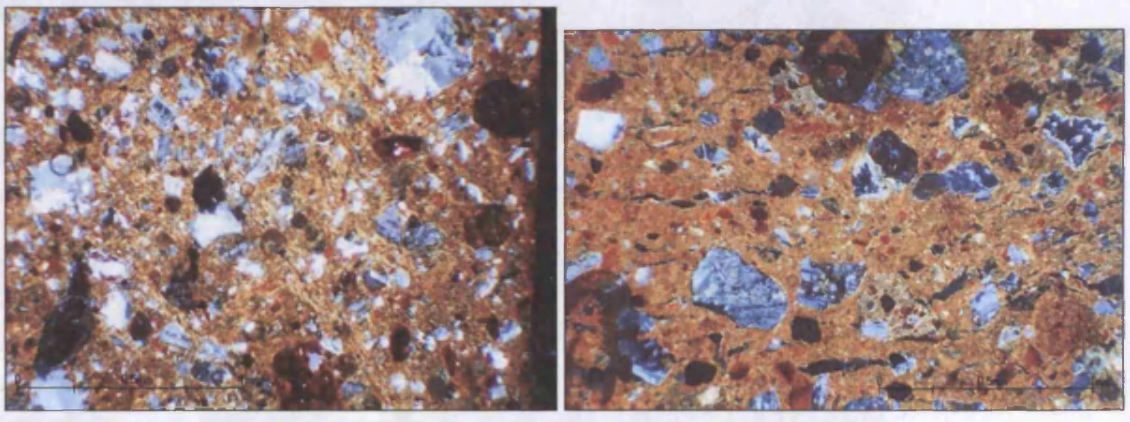

Fig. 11. 446N 1148.5E L6. Red coloured paste sherds. Unslipped.

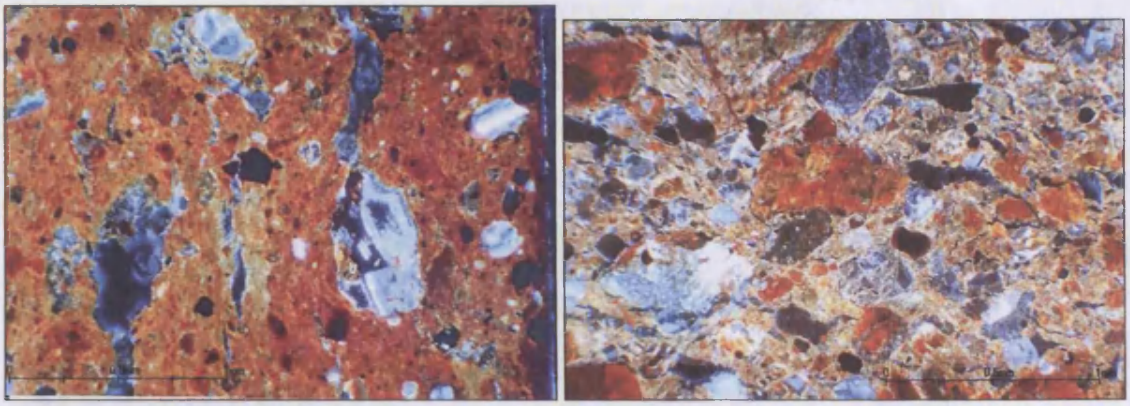

Fig. 12. 446N 1148.5E L6. Red coloured paste sherds. Unslipped.

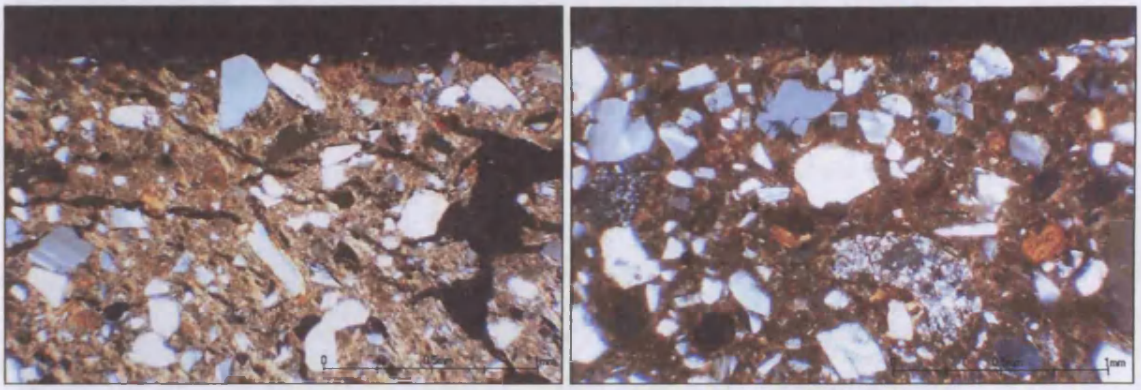

Fig. 13. 445N 1141E L4 (left) and L5 (right). White coloured paste sherds. Red slipped. Notice the elongated voids and the angular inclusions, as well as their higher density.

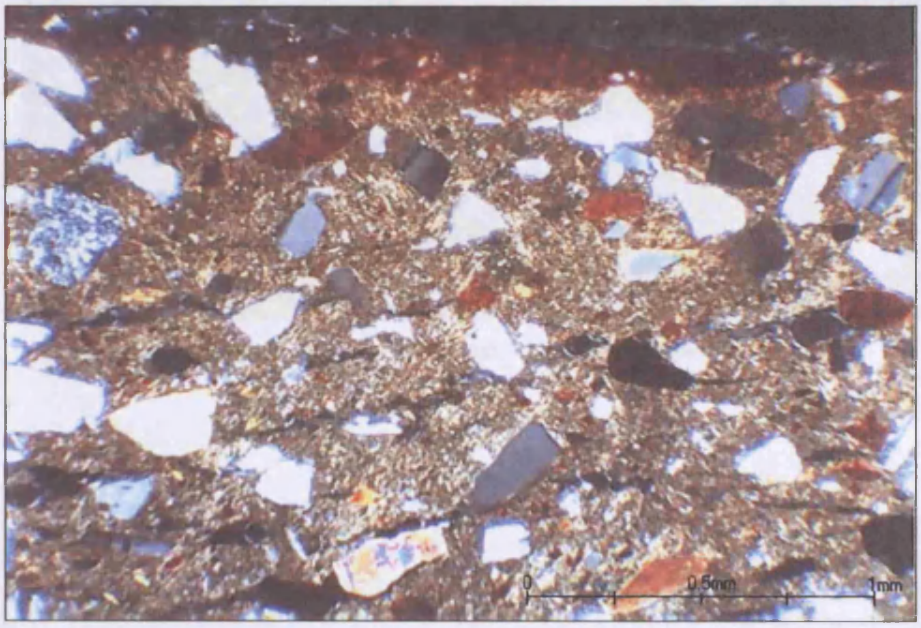

Fig. 14. Morelos, 220N 330E D5 N6. White coloured paste sherd, with red slip.

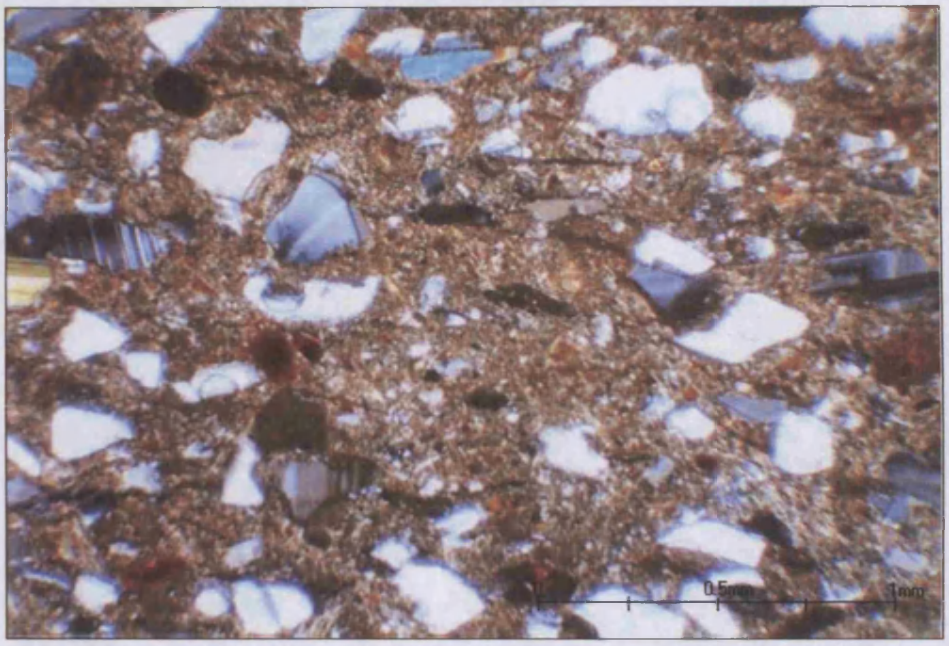

Fig. 15. Morelos, 220N 330E H2 N9. White coloured paste sherd, with red slip and black paint.

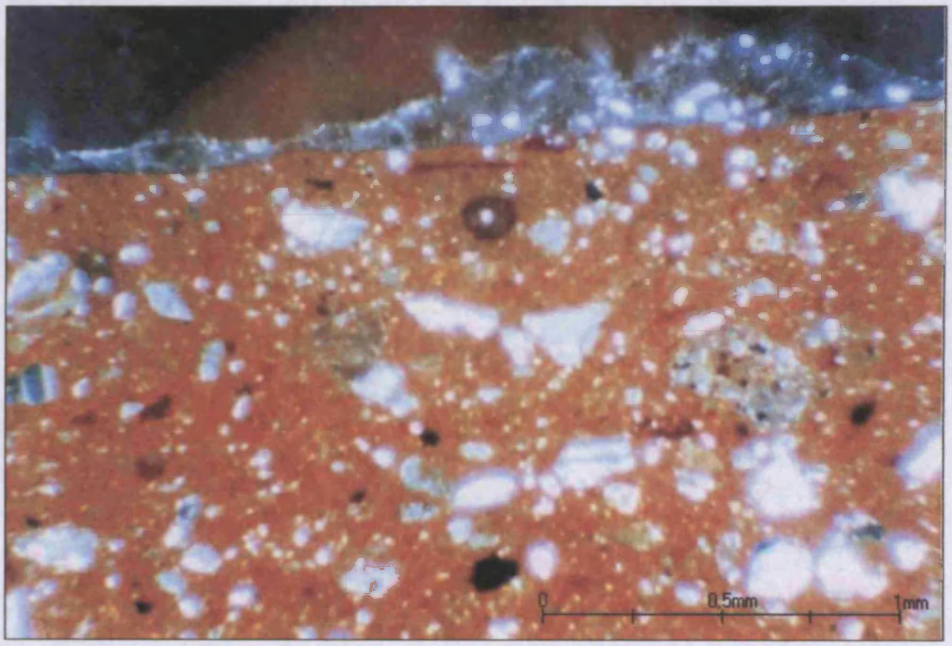

Fig. 15. Majolica pottery, Panamá Viejo Plain. Without provenance.

Appendix 2

Introduction

The following sites lie in the Eastern Region and their material, though forming part of the region's cultural repertoire, are not directly related to the Panamá Viejo pottery; yet, they serve as a compliment to the information from the sites listed in Chapter 3. Nevertheless, the results of these studies are relevant enough to be included in this dissertation, also with the purpose of serving as a reference for future researchers.

Linné's work

During his expedition with the Baron Erland Nordenskiold, Sigvald Linné explored various sites in the Islands of the Bay of Panamá, in the Atlantic Coast of the Isthmus and the Gulf of Urabá, and the Pacific shores of Colombia. Always skirting the coastline, he occasionally went deep into the mainland (Linné 1929).

Fig. 1. Sites on Linné's Survey. Source Linné 1929.

Pearl Islands

In the Islands of the Gulf of Panamá he found evidence for two types of house, rectangular and circular. The rectangular houses were apparently only associated with painted pottery types, while the circular houses presented plastically decorated material, such as impressed, appliquéd and relief pottery. Linné thought that the circular sites were more ancient than the rectangular habitation sites, because in the former, he finds molluscs from cold waters of a species already extinct, and no painted pottery, which when found in the rectangular sites, presents affinities with the decorative styles of the Central Region (Casimir 1973:80; Linné 1929:134-138).

Plastic decoration is typical and widespread in the entire Eastern Region, and was achieved using shells, fingernails or other instruments (Cooke 1973, 1998a). Among his samples there are fragments of pottery now called Votive Ware. Also, among the painted types he found several typical of the Central Region, such as Cubitá type (dated by Cooke to AD 500-700), Ciruelo black on red variety and several of its varieties (Isaza 1993; Sánchez 1995). "Painting of 2 kinds: black lines on red ground, or dark brown on black lines on a background alternatively yellow and red...for most part the paste is fairly coarse with large grained sand admixture" (Linné 1929:78). The general forms are plates with or without a raised rim, possibly with an annular base, wide mouthed ollas and raised rims, and zoomorphic pots. Most of the designs are zoomorphic, especially marine motifs such as turtles or fish. Incisions, appliqué, and animal figure reliefs decorate the monochrome ceramics, whose forms are big wide mouthed ollas and everted rims with a thick lip, round based and short pedestalled *cajetes*, possibly *comales*, very plain plates, very short necked plates and ollas, *malacates*, whistles and antropomorphic figurines (Casimir 1973:79).

The monochrome pottery shares similarities of style and technique with pottery from the rest of the Pacific coast of Panamá, especially with those found at Venado Beach, Panamá Viejo and Monte Oscuro. The polychrome styles are similar to the ones found by Torres in Chepillo Island, black and red lines over a cream or yellow background (Torres 1975:53). In the Pearl Islands Linné also presents a fragment that is identical to the Escotá type of the Aristides Group (now Tonosí Group), that in Coclé apparently dates from AD 200 to 500 and is very early (Linné 1929, fig. 16c). Several other fragments and some vessels can easily be included in the Corotú Polychrome Group also in the Aristides or Tonosí Group (Linné fig. 18e, 25d, 23), as well as some Macaracas Group fragments (Miranda 1974:15). In Fig. 24, Linné has a bowl that is clearly identifiable with the Ciruelo Black over Red Variety of the Cubitá Type (AD 500 – 700). A Macaracas Type bowl (AD 850 – 1000) is shown in Fig. 23 (Linné 1929). Also, in figure 26 f and g, he shows fragments of bowls very similar to the Votive Ware recovered at Panamá Viejo. It is also very probable that some of Linné's figures represent fragments of the ubiquitous Incised Relief Brown Ware (Linné 1929, Fig. 16 a, b).

Pacific Coast

Linné found burial and habitation sites all over the Pearl Islands. Following the coastline to the south, he reached Colombia. At Cupica, he excavated two sites, La Resaca and el Cementerio, finding again the plastically decorated pottery, alongside a burial site. He found similar occupations and evidences of cultural homogeneity all the way up the Pacific shoreline, from Cupica, to Cocalito, Puerto Piña, Santa Bárbara, Garachiné, Punta Patiño, the rivers Sambú, San Antonio and Santa Bárbara. "The ceramics present such close resemblance to those of the other

two sites in the neighbourhood of Garachiné (Santa Bárbara and San Antonio) that the inhabitants must have belonged to the same people...of painted pottery there was none" (Linné 1929:167).

At Cupica, "their decoration consists either of painting, strips of clay affixed to the surface, or of impressed or scratched ornaments. Only red paint has been used...no patterns or figures of any kind are executed in painting. The most complex decoration consists of fields alternatively painted and alternatively scratched...scratches with sharp instruments" (Linné 1929:183). An important site is Cocalito, where later, Willey and MacGimsey found a ceramic type similar to the Sarigua type (1200-700 BC) from the Central region. It is without paint, decorated with thin strips of clay, incisions and punctating over the fresh paste. The forms are spherical pots with a small mouth and everted rim (Casimir 1973:80).

Urn burials are never mentioned from the time of Contact, and the only reference to that mode of burial originates from Requejo y Salcedo, who in the 1640's visited Indians in the Upper Rio Chucunaque (see Requejo y Salcedo 1908). A funerary urn found at Ancón-Hill (near Panamá Viejo), was sealed up by a flat bowl that served for a lid (Linné 1929:213-214).

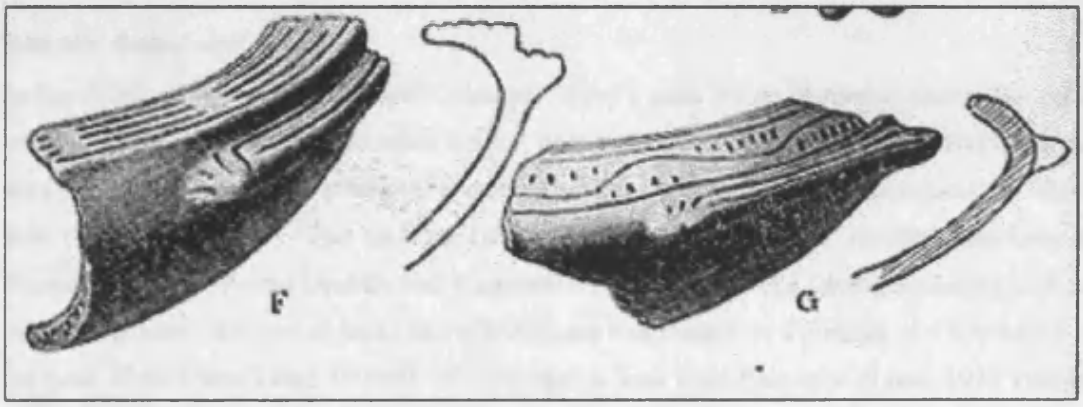

Fig.2. Votive Ware from the Pearl Islands, f and g. Source Linné 1929 Fig 26.

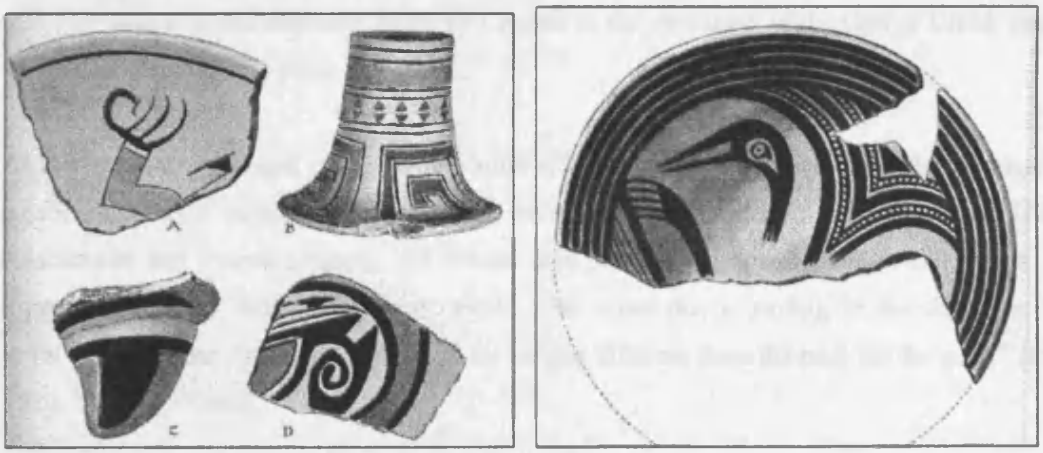

Fig. 3. Painted pottery in Linné 1929 Fig. 25 (left) and Cubitá Style Ciruelo Black on Red (AD 500 – 700) Linné 1929 Fig. 24 (right), all from the Pearl Islands.

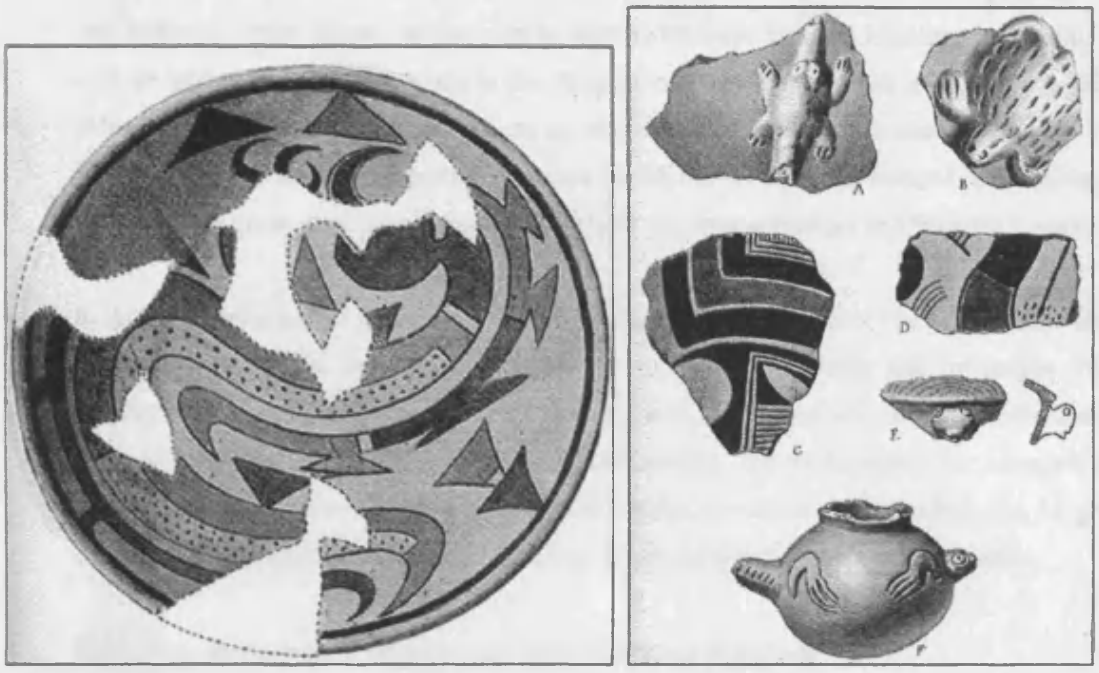

Fig. 4. Macaracas Bowl (AD 850 – 1000), Pearl Islands, source Linné 1929 Fig. 23 (left) and Painted and Plastically decorated (IRBW) Pottery from Pearl Islands. Linné 1929 Fig. 25 (right).

Atlantic Coast and Urabá

In the Atlantic coast of Panamá and Colombia Linné's team surveyed several sites. The most interesting lay close to the Colombian border, near the Gulf of Urabá. There he also observed sites that according to him evidenced a cultural uniformity that extended throughout the whole area (Torres 1975:45). The sites of La Gloria, Candelaria, Severa, Acandí, Anachucuna, Titumate, Triganá, Puerto Obaldía, and Capurganá were explored. La Gloria, according to local tradition, is where the port of Santa Maria la Antigua was located, at a distance of 4 kilometres to the ruins of the town (Linné 1929:9). Several burials urns were discovered (Linné 1929:10-14). Some of the incense burners found at La Gloria are very similar to the ones detected at Santa Maria la Antigua by the later Belgian expedition of King Leopold. Some of these ceramics are also very similar to the ones later found by Cruxent in the west coast of the Gulf of Urabá, in what he calls his Escorromulo phase.

At la Candelaria he found evidence of a large village. The pottery decoration also consisted of plastic and incised motifs (Linné 1929:25), with a typology similar to that found at La Gloria, Anachucuna and Puerto Obaldía. At Severa though, near the mouth of the Atrato river, they found a completely different material culture. He states that according to the chronicles "the lower course of the Atrato was inhabited by Indians different from the ones on the coast" (Linné 1929, Torres 1975:46).

Miranda states that the red slipped polychrome pottery found by Linné, with a polished surface and different vessel shapes, is completely identifiable with his own Martinambo Group, which will be later described, belonging to the Bayano river watershed, with a date of c.a. ad 1000 (Miranda 1974:15). It is probably safe to say that the in the sites on the west coast of the Gulf of Urabá, although Panamanian pottery types are found, the predominant cultural items belong more to Colombian types from the other side of the Gulf (see below Bedoya and Naranjo's work).

In typical fashion for his time, Biese looked for the origins of the pottery he found elsewhere. He attributed most of the formal variation he saw to diffusion of ideas and influences from the "higher cultures" nearby, namely either Maya or Aztec Mesoamericans, or Inca South Americans. Even if these turned out to be spurious relationships, the bibliography he amassed is still invaluable. As with most studies before the invention of absolute dating techniques, he gives no dates, and his temporal associations with other relatively dated cultures are unreliable.

Máximo Miranda's Survey of the Bayano Region

In 1973 Miranda conducted an extensive and intensive search for archaeological materials in the region near the mouth of the Bayano River. He discovered many sites, and collected material from each, trying to build a "typology" and a probable sequence of the probable cultural phases. His description of the data is useful in linking and cross-dating his surveyed sites with others in the Region. His classification is a characteristic type-variety analysis of the materials, and he acknowledges this fact at the beginning of his work stating that he follows the method advocated by Ford, Meggers and Evans (Miranda 1974:47), basing his classifications specifically on paste, surface and form attributes. This is a crucial point, as it shows how much of Panamanian archaeological thought, has been influenced by the work of these pioneers and their taxonomical classifications, to the point of almost becoming the law of classification, not only for Panamá, but for many other countries. He refers to Linné's early work in the Oriental region by saying, "his material is very homogenous and it is this characteristic that helps to identify it with the stable cultural group that inhabited a part of the Eastern Region of Panamá, in the islands as well as in the continent" (Miranda 1974:14, all translations by the author).

His survey included too many sites for all of their materials to be mentioned here, so only those relevant to his classification of the material will be listed. He explored the following sites: Sitio Unión Tableña Cho-1, Martinambo Cho-2, Chichebre Cho-103, San Román Cho-104, Santa Cruz Cho-105, Raizosa Cho-106, La Joyita Pa-107, Cerro Peñon Pa-108, Gatuncillo Cn-109, La Bayana Cho-110, Samaria Pa-111, González Revilla Pa-112, Conchero de Gumercindo Cho-113, Ahoga Mula Pa-114, Bajo del Piro Pa-115, Los Bravos Pa-116, Puente de Pacora Pa-117, Chucunate Pa-118, Mortuoria Pa-119 and Campo Pa-120.

The key sites, where Miranda carried out his classifications, and with which he named his temporal phases were Martinambo, Chichebre, La Joyita and Santa Cruz.

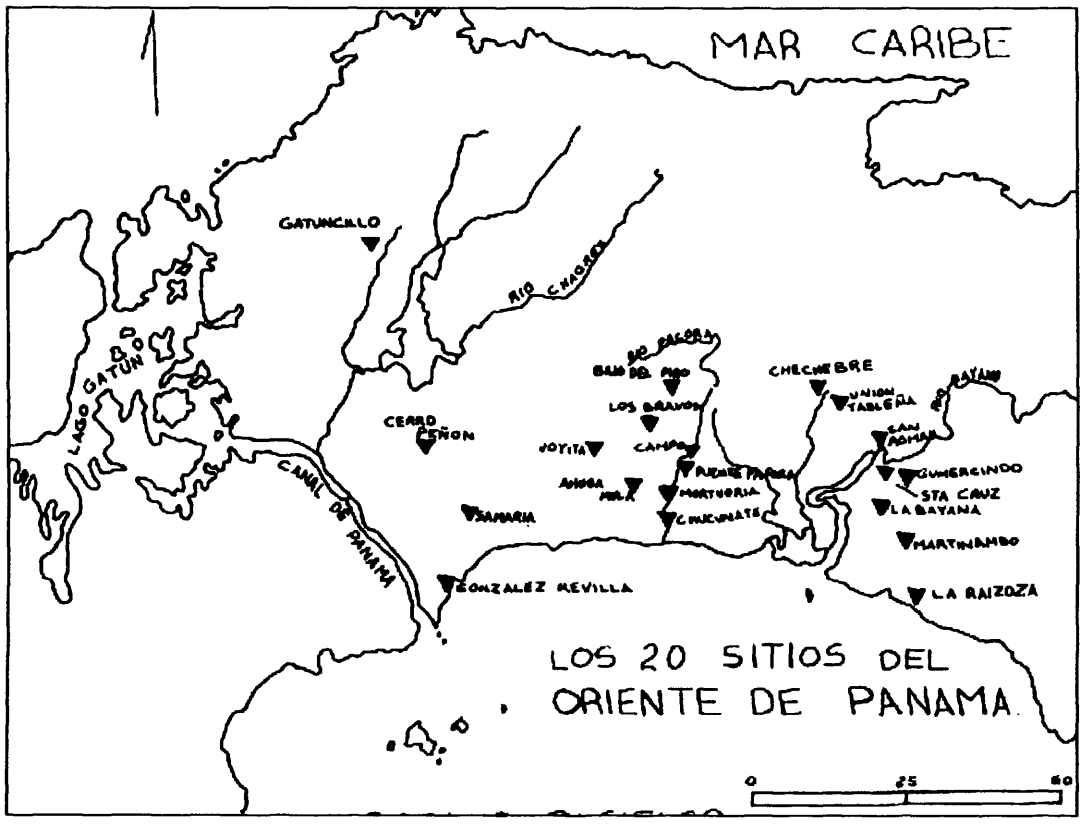

Fig. 5. Map of Miranda's Sites. Source Miranda 1974.

Martinambo Ceramic Types

Martinambo Anaranjado: a polished surface of orange or light brown colour, of the same colour of the paste. Presents incisions, simple or in parallel lines. Modelling from the interior, band appliqué, simple punctating. Also zoned punctating limited by incisions similar to an animal body. The forms are open bowls, plates, miniature vases, large bottles, ollas, and communicating bottles.

Bayano Crema: cream coloured clay slip, presenting incisions that can be either strong or light. Also some incisions with strawing on the wet paste. Forms can be subglobular vessels with a high neck, plates and restricted vessels.

Pitosa Gris Aspero: rough unpolished surface. No decorations, presenting a grey colour. Forms are open ollas, ollas with a straight and long neck, and urns? (*tinajas*).

Pedrón Rojo: red slip sometimes accompanied by cream or white coloured slip, one of the two serving as a base, but most of the time it is the red that predominates as a base. Decoration consists of deep incisions limited by the red slip; incisions with an overlying dotted line; incised appliqués; zoned brushing (*escobillado*) and dotting limited by incisions; zoomorphic modelled figures. Forms are urns, plates, large bottles, small containers (*cantaros*), and modelled vessels.

All these types were manufactured by coiling, except Chinina Negro.

Chinina Negro: the paste is of a totally black colour, it is burnt. The forms were achieved by modelling. Sometimes the surface has been white slipped. Forms can be long necked *cantaros*.

Summary of Martinambo pottery characteristics: The forms can be necked funerary urns in the shape of a pear, large bottles, pedestalled fruit-bowls (probably similar to our pedestalled plates), covers with a hole in the rim to be tied up, plates, subglobular containers *(cantaros)*, spherical ollas, and vases. Paint can be a total red slip, zoned red slip combined with the natural colour, red and cream slip, cream slip, and polishing. The decoration is composed of incisions, appliqué, interior modelling, incisions with shells, punctating, straw-brushing *(carrizado)*, scratchings, zoomorphic figure modelling, and zoned punctations limited by incisions. Representations can be of bird figures, feline heads, or monkey heads. There is also a reptile figure in high relief, and the representation of a house's roof (Miranda 1974:53-77).

Chichebre Ceramic Types

Chichebre Liso: orange or brown coloured paste with a polished surface and simple forms. Surface colour is orange without any decoration. Forms are open bowls *(cazuelas)* with a small circular handle and the lips towards the inside; urn covers; subglobular vessels with long necks, and globular vessels.

Chichebre Rascado en Zonas: the diagnostic characteristic is continuous scratched lines located in certain zones of the outer surface. The paste is an orange colour. Shapes can be globular vessels, subglobular vessels with long and straight necks.

Summary of the Chichebre pottery characteristics: globular urns, tar pots *(tarros)*, fruit bowls, incense burners, trays, *(cazuelas)*, subglobular vessels, small vessles, *ollas*. Paint is a red slip and the surface can also be polished. Decoration consists of incisions, modelling from the inside, zoned scratchings, combination of red slip and natural colour of the paste, and applications. Representations are in the shape of reptiles. There are also mortars, arrow tips and trench tombs found in the site (Miranda 1974:83-89).

La Joyita Ceramic Types

Bañadero Simple: red coloured paste due to the high contents of iron oxides. The outer and inner surfaces are both polished. The surface colour is red, without decoration. Forms are open plates with a flanged rim, plain open plates, globular vessels, subglobular vessels, large very open plates, and *cazuelas*.

Bonámico Plástico: red coloured paste with the same characteristics as the previous type except that they are decorated with different plastic techniques. It presents a red colour. Decoration is through incisions with deep, wide lines, and thin lines when the paste is still humid or dry; appliqué; appliqué limited with incisions; shell stamping inside appliqué bands, which are

themselves limited by incisions; modelling from the inside combined with appliqué and incisions; *ungulado* combined with incisions and appliqué; punctating combined with incisions and appliqué; strawing (*carrizado*) combined with incisions and punctating; lines on the dry paste surface; shell stamping; applied small balls, that can be incised or plain. The represented figures are claws, round beaked birds, incised or plain eyes, fish, crocodiles and serpents. The parts of this ware that actually present a decoration are: in the semi-straight rims the lips are stamped, with the teeth of a shell; scratching (*rayado)* in the exterior of the plates; incisions bordering the plates; the mid section belly of the vessels is decorated.

The summary of pottery characteristics from La Joyita is thus: forms are plates, subglobular and globular vessels, large plates, *cazuelas*. Painting is by smoothing (*alisado)*. Decoration is through incisions, shell stamping, modelling from the interior, punctating, strawing, and scratching. Representations are the claw, birds, monkeys, and reptiles. Other characteristics of the site are habitation areas, mortars, shells are present in the diet, small site size, and lithic objects (Miranda 1974:103-112).

La Bayana Ceramic Types

Tigre Utilitario: straight neck composed of an attenuated lip. The clay surface is covered in carbon. The colour is dark smoked. The general impression is that they are impregnated with carbon as they received a culinary use. No decoration exists, and they are open forms, very similar to Pitosa Gris Aspero type (Miranda 1974:121-125).

Chucunate Pottery Types

Pacora Quemado: its colour, in both outer and inner surfaces is black, sometimes grey. The surface has been polished and the instrument's marks are still visible. It presents no decorations, and the forms are globular and subglobular vessels (Miranda 1974:172-180).

There is also one more ceramic type called Campo Rojo, from an unknown site.

Miranda's Chronology

He described and analysed material in the other sites, but most of it was related to the already described types. He then built a chronological sequence of these types and varieties based on 500 year periods and some radiocarbon dates, whose origin is unexplained[46]. These four periods were based on his major ceramic types, which are in turn each tied to a different site.

[46] I assume he took them from the only other dates available for his area, that is the Venado Beach dates, from Lothrop's work, and the Miraflores and Isla Carranza dates, from Cooke's work.

Joyita Phase, 70 B.C.

The sites included in this phase are Joyita, Bajo del Piro, Los Bravos, and Ahoga Mula, which he dates c.a. 70 BC using a date obtained by Richard Cooke from Isla Carranza. But it is unclear how he arrived at this conclusion. He says that in this period, or type, several plastic decoration techniques are popular, such as incisions, appliqué, shell stamping, strawing, punctating, and the elaboration of rudimentary small pedestals. He sees here a formative modality, where polychromy is still unknown, only occasionally a red colour is applied as a slip. The represented iconography is through reptiles, fish and birds. They have two marked characteristics, which are the representation of extremities in the shape of a claw and incised projecting eyes.

He also thinks this type presents very early modes, that have a possible origin in the Colombian northeast, such as in Reichel-Dolmatoff's Puerto Hormiga site, dated around 3000 BC. He also produces a geographic distribution for this type of pottery within the said time frame, that is spread all over the Panamanian Oriental Region, in Panamá Viejo phase I (?)[47], La Tranquilla, near Madden Lake, in Juan Banón site to the east, and in the Venado Beach Cemetery phase I. It is unknown how he reached these conclusions (Miranda 1974:206-214). However, it is possible he is referring to the ubiquitous Incised Relief Brown Ware, dated to a later time of AD 400 – 750.

Chichebre Phase, c.a. AD 500

The sites included in this phase are Ahoga Mula, Gatuncillo, Chucunate, Mortuoria, Puente de Pacora, Campo, La Raizosa, Union Tablena and Chichebre. Ahoga Mula site contains material from both Joyita and Chichebre phases, while Chichebre site has material from this group and from Martinambo as well.

In La Joyita site the stratigraphy shows Joyita ceramics underneath the Chichebre group, indicating its precedence to Chichebre ceramics. These later ceramics never appear mixed with an even later ceramic group, the Martinambo group, dated to around ad 1000. One fact that indicates the possibility of a date of c.a. AD 500 for the Chichebre group is that in the Stirling's excavations at Taboga, they recovered material similar or identical to Chichebre Rascado en Zonas, which is under the upper levels, which by association with Conte and Macaracas polychromes has a terminus ante quem of ad 500 (Miranda 1974:219-221). His Chichebre group may be equalled to Zoned Linear Incised pottery, but it also sounds similar to Incised Relief Brown Ware, therefore its chronology remains speculative.

[47] It is unknown to me why some authors give Panamá Viejo different phases, as Biese gave none.

Martinambo Phase, c.a. ad 1000.

The chronological reference for this phase, are Cooke's dates for the Miraflores material (Cooke 1973), due to the typological similarity between his findings and Miranda's at Martinambo. According to Miranda, the presence of a unique ethnic and cultural group was detected at Martinambo. In this group, the most popular type was Martinambo Anaranjado, indicating that polished vessels, without a slip, were the most numerous, and were used for liquid storage, and cooking. Pedrón Rojo type was the luxury ware, decorated with monochromy and bichromy, with form and function similar to Martinambo Anaranjado.

In general terms he sees a correspondence between the types and the paste, with a temper composed of quartz and small stones, manufacturing through superimposed rolls, uniformity in the cooking process and the lack of appendices. Also, the modelled neck bottles representing birds, and the double bottles united by a tube, are common within the Martinambo Anaranjado and Pedrón Rojo types. These double bottles are unique to the Oriental Region. The ones with bird representations are common in the west as well, except that the eastern ones are not painted.

The territory covered by this Martinambo Phase is the lower Bayano River watershed up to Samaria, Panamá Viejo Phase II (?)[48], and the Pearl Islands. He states that this phase has its centre for political and economic power in the shores of the Bayano River (Miranda 1974:232-249).

Santa Cruz Phase, c.a. ad 1200.

The three sites distinguished for showing late material are Cerro Peñón, Santa Cruz and González Revilla. They have been given this date through typological comparisons with other materials from the Eastern and Western Regions, but again, there are not definite radiocarbon dates for his study. For example, one *metate* found at Cerro Peñón is very similar to those found in Parita. Material from Santa Cruz site is reminiscent of Martinambo phase, but it manifests in all its extension the contact and influence with the Western Regions of Panamá, such as in the communicating bottles. Now they present white paint on the surface, when previously they did not. Also, pedestalled plates and jars present in the Santa Cruz cemetery show polychrome designs from the Macaracas group in Azuero. Another bottle from Gonzalez Revilla definitely belongs to the Parita group, hence the date of c.a AD 1200 for the Santa Cruz phase. Other sites contemporary with this phase are Panamá Viejo III, Chepillo, Tumba Muerto, Impacto and Venado Beach III. Hunchbacked figures found in this phase are also present in Coclé polychromes (Miranda 1974:250-251). Needless to say, Miranda's pottery associations and dates are very tenuous and difficult to corroborate.

[48] The origins of this temporal segmentation for Panamá Viejo are unknown, as Biese offered none.

His last two phases, Martinambo and Santa Cruz seem to be more accurate in their datings, yet his two earlier ones, Joyita and Chichebre are more dubious. The types defined for these two later phases seem to be similar with the material found at Panamá Viejo and other early 2nd millennium Eastern Region sites, in that they share a preference for red looking pottery, with little or no decoration. His plastically decorated pottery resembles all the types seen in the Eastern Region, those described by the Stirlings at Taboga, Zoned Bichrome and Zoned Linear Incised, Incised Relief Brown Ware and Votive Ware, and some of those described by Cooke in his Miraflores report (1973), none of which appear at my excavations at Panamá Viejo. A further study of his collections is needed in order to determine any modal connections to other assemblages in the Region.

Cruxent's survey of Darién

José María Cruxent conducted surveys of sites along the East Coast of Darién all the way up to the west coast of the Gulf of Urabá. He classified his pottery into two phases, Escorromulo and La Villa phases. Escorromulo phase is represented by a ware manufactured by coiling and modelling in some cases, with a fine sand temper and a rather heavy and rough paste, presenting two colours: brown and reddish. Decoration is mainly dedicated to digital impressions, incisions, punctating and the application of clay strips is also quite popular. Among the observed forms, there can be ollas, liquid-containing vessels, some having their necks so high they look like bottles. He sees a similarity between this group and the ware found by Linné in Triganá, La Gloria and he groups all these within the same ceramic tradition. He also found a fragment that appears to belong to the Sarigua type (1200 – 700 BC) from the Central Region (Casimir 1973:80-81; Cruxent 1959).

La Villa phase is characterised by a site belonging to a Spanish occupation from the end of the 18th century on the Gulf of San Miguel. The pottery is made by coiling too and the temper is laden with sand, which makes ware rough to the touch and hardly ever polished, and when it is, the polishing tool's marks are found. Colour varies from a clear grey to a clear brown. Decoration is achieved by applications of clay bands with digital impressions, (*escotadas y ungliformes*), and one red slipped fragment was found also with a fitomorph application. The shapes are principally ollas, and medium sized pots (*tinajas)* with a high neck, globular bodies and plane bases; also annular bases, thickened lips, and decorated coiling (*acintado)* (Casimir 1973:81).

The ceramics found by Cruxent have one common characteristic, which is the aforementioned digital decoration impressed on the lips of the vessels. He also presents a polychrome plate from the Gonzálo Vasquez site, which is very similar to a bowl of the Aristídes Polychrome group, Cocobó with interior bands type, that according to Cooke belongs in the AD 200 – 350 time

period in the Central Region (Miranda 1974:17-18). Unfortunately he did not present any further or more detailed chronological relationships with which to tie his material to the rest of the Eastern Region.

Santa María La Antigua Excavations

King Leopold of Belgium organised an expedition to locate and excavate the ruins of the first Spanish town to survive in the mainland, Santa María la Antigua, founded in 1510. From this town, the conquest of the rest of Panamá got underway, however, within a few years, Panamá Viejo took its place as the base of operations for the Spanish endeavour. The expedition found the site, and after lying down a few trenches found evidence for a Precolumbian village underneath the Spanish remains (Verlinden 1958).

They found Precolumbian pottery, which they claim belongs to a widespread pottery complex, that is not only found in sites all over the western coast of the Gulf of Urabá, but they also see similarities with material found by Linné in the Pacific shores of Panamá, Willey and MacGimsey's El Tigre complex of Central Panamá (dated tentatively to just before Contact times), and also in sites excavated by the Verlinden's team themselves in the basin of Canalete River, in the lower Sinú (in Colombia), in the entire zone of the Gulf of Morrosquillo, in the environs of Cartagena and to the west of the lower Magdalena River. Up the Magdalena, the same complex was observed by their team up to the region of Tamalameque, near the confluence with the River Cesar (Verlinden et.al. 1958:34; Reichel-Dolmatoff 1951, 1953, 1954). "In effect, the pottery resembles in all points a complex proceeding from excavations in the entire region between the lower Magdalena and the Gulf of Urabá, and there are no distinguishing particularities with the material of this zone. The unity of style of all these sites is striking, and the only differences noticeable in respect to forms and the decorative and technological points of view are differences in workmanship" (Verlinden 1958:34, translation by the author). Verlinden thought the material at Santa María was of recent date, probably Contact period.

They found plastic decoration on most of the sherds, and very little paint, forming a homogenous group. Incised motifs such as crosses, lines and circles, among others are representative of the region, but they may be more related to Colombian types, rather than to IRBW, Zoned Linear Incised or other Panamanian types. The clay used for the ceramics is generally ferrous, brick red coloured when thoroughly cooked, yet in most cases oxidation was incomplete except for the thinner vessels. Nevertheless, there is another type characterised by a reductive atmosphere in the kiln, achieving a black or grey colour on the outside, undoubtedly an intentional variation, product of successful ventilation control in the oven. This "smoked" type is generally better and thinner than the red variant, and is generally well polished at least on the exterior. The temper

usually consists of many crystalline black or opaque grains, or crystalline white and transparent grains of circular shape. On the whole the complex is very friable, prone to breaking.

The surface is generally unslipped, but polished, frequently eroded or rugged. Incised lines on the outer walls, following essentially geometric motifs, such as isolated straight lines, or grouped in parallels are the usual decoration. Curve parallel lines, or lines limiting triangles, crossed hachures, etc. Modelling is rarely used, with buttons or protuberances, with a depression in their centre. Morphologically, Verlinden recognised several shapes, such as large globular bowls, semi globular and globular mid-sized vases, pedestalled semiglobular cups, cylindrical necks with outflaring rims, bases with a conical foot, and vases in the shape of a shoe (Verlinden 1958:32-34).

Arcila later revisited Santa María and recognised the pottery again, observing colours from red, to black, white and grey (Arcila 1986:83). Again they perceive plastic decoration as being the favourite among the ceramic complexes of the Eastern Region. Of ten decorative aspects detected, nine refer to plastic decoration of some sort, appliqués, modelling, incised punctating, round punctating, hachuring, chanelling, reticulating, excision, and corrugation (Arcila 1986:119).

As did Verlinden, they observed three major surface finishes, rough, slipping and polishing (Arcila 1986:147). The red coloured pottery in these three modalities is more abundant than the other colours. The cream colour almost always is polished. Black colour results from lower kiln temperatures, and its texture is very grainy, probably left in a rough state. Grey colour was generally very well polished.

Unfortunately, the expeditions to Santa María La Antigua did not establish a chronology or the chronological relationships between their material and the surrounding sites, or the rest of the Oriental Region. Their publications limited themselves to description of the pottery found.

Capurganá and the Atlantic Coast and Gulf of Urabá

Bedoya and Naranjo surveyed six sites on the west coast of the Gulf of Urabá, gathering surface collections, but only excavating in Capurganá site. They cite previous work carried out in the area by Gustavo Santos (1958, 1982), who excavated in El Estorbo, the region's type-site, on the east coast of the Gulf. The analysis helped define a homogenous cultural complex characterised by a modelled incised ceramic tradition. Santos thought that the entire Gulf of Urabá, including Panamanian Darién, the Mulatos and Arboletes river valleys, and the Alto Sinú region were under the same cultural complex, with some regional and local differences. Santos also excavated on the west coast of the Gulf, in Capurganá, Zapzurro and Bahía Rufino, recovering fragments that he thinks correspond to the same complex defined for the eastern margin of the gulf, even though

it shows some variation dealing with a less fine elaboration, thicker fragments and less polished surfaces (Bedoya and Naranjo 1985:7-8, all translations by the author).

Bedoya and Naranjo surveyed between Cabo Tiburón and Bahía Rufino the sites of: Zapzurro, Capurganá, Plan Parejo, El Capricho, La Crítica and Playa Blanca. Most of the evidence is ceramic fragments and a few fishing net weights. They distinguished two chronologically significant ceramic groups, which they relate to two phases in the occupation of Capurganá, characterised by particular styles of making and decorating ceramics. Within each group, the material was very homogenous, in that it does not present perceptible changes in time, the ratio of form-decoration being the same and utilising the same paste and temper in all levels of each occupation (Bedoya and Naranjo 1985:67).

The earliest occupation of the site is represented by a series of decorative motifs based on incisions and paint, elaborated in the body as in the rims of the vessels, outside or inside. The designs are simple and varied, achieved with different instruments. The paste is compact, and a good temperature was attained in the cooking process. The surfaces are well polished and may present a red slip in both faces or just in one, depending on the forms. In general the fragments are very thin compared to the last occupation (Bedoya and Naranjo 1985:68). In occupation I the vessels' body is decorated, contrasting with occupation II, where decoration predominates in the rims and is limited only to the upper part of the body (Bedoya and Naranjo 1985:131).

Description of forms in Occupation I, Capurganá

(Bedoya and Naranjo 1985:71-100).

Form 1: Everted rim subglobular vessels. Incised decoration on the outer and inner surfaces of the rim and upper body. Combing is also observed covering the entire rim, as well as deeply incised and undulated lines in the body, with irregular motifs.
Form 2: Straight everted rim subglobular vessels. Dots or nail incisions forming a line around the interior of the rim, and brushing on the exterior.
Form 3: Everted rim and short-necked subglobular vessels. No decoration except for a bisel in the inner rim's surface.
Form 4: Carenated *Escudillas*. Much variation on the rim. Incised decoration in the inner surface of the body and in the exterior, in the zone between the rim and the carenation.
Form 5: Simple shallow bowls (*cuencos*). Lines and fine dots incised in the lip and on the inside of the body wavy incised lines, or cuneiform incisions.
Form 6: Plates with zoned decoration. In the inner margin there is a band, decorated with motifs formed by horizontal lines that may be incised, channelled, curve, or spirals that zone in field of dented, cuneiform, hachured or dotted decoration. The dented-incised decoration predominates.

Polychrome Decoration

Form P1: Simple shallow bowls (*cuencos*). Paint over a red slip.
Form P2: Slightly everted rim shallow bowls (*cuencos*). Decoration inside and outside of the rim, as well as on the superior outer surface of the body. Horizontal and parallel bands of white paint around the body, limited by black lines, also traced over the white paint. Curved designs or rows of short vertical lines in black paint have been placed over a white band in the rim. There are also others with incised lines in the inside.

Form P3: Concave Plates. Decorated in both surfaces, with bands or white zones, delimited by black lines forming curved motifs.
Form P4: Everted wide rim subglobular vessels. Decoration on the lip is of red slipped bands and on the inside of the rim white parallel bands have been traced, that alternate with black lines, or over curved motifs were traced over the white bands.

The second occupation was identical to that described for the rest of the Gulf, belonging to the El Estorbo cultural complex. It s a modelled incised ware, with incisions and applications that sometimes form complex and symmetrical motifs, the decoration being generally in the rims and upper portions of the bodies, almost always on the exterior. The paste presents a structure that fluctuates between sandy and compacted. Even with polishing, the finish is not as good as the one seen in the previous occupation and the fragments are thicker. This is why they sometimes present a blackened core, due to incomplete cooking, even though some stains may be intentional. The ceramics for both occupations were elaborated with ferric clay in most cases, as well as a grey clay in a minor proportion. The temper is sand with different thicknesses that vary from fine to medium grain, constituted by particles of cream, grey and black coloured quartz, mixed occasionally with inclusions of crushed rocks of difficult identification, with a size that varies from 2 to 4 millimetres. The grey clay does not need temper, and when it does, it is very fine quartz that tends to be confused with the paste. With heat it takes a yellow colour on the surfaces most exposed to the heat, leaving an intensely Grey core that is not to be confused with a core left by an incomplete heating process. They think that in the earlier occupation potters made a conscious selection on the thickness of the temper, for all the particles present a very uniform size, while in the later occupation there is no such uniformity (Bedoya and Naranjo 1985: 68-70).

Description of forms for Ocuppation II " El Estorbo"

(Bedoya and Naranjo 1985:101-127).

Form A: Round body and thickened rim vessels. Modelled protuberances on the outer surface of the lip, incised lines, dots and triangular impressions around the rim, and moulded protuberances with an incised dot in the centre applied forming a line around the upper body.
Form B: Thickened rim subglobular vessels. Decoration on the outer surface of the rim and body. Incised lines traversing the rim vertically or in an oblicuous angle, and applied protuberances on the upper body. Sometimes more complex motifs are found on the body with incised lines, dots and applied protuberances. A single vessel may present decorations on the rim and body. There are also rims in this form that have a rounded protuberance projected exteriorly on the lip.
Form C: Conical shallow bowls (*cuencos*), without decoration.
Form D: Restricted mouth and rounded body shallow bowls (*cuencos*). Decoration consists of rounded applied protuberances on the upper body and sometimes combined with incised lines or dots.
Form E: Moccasins. Typical El Estorbo decoration, rounded protuberances with an incised dot in the centre, forming a line around the upper outer surface of the body, and sometimes combined with curved incisions or dots. When in the rim, the decoration consists of incised dots.
Form F: Deep conical Cuencos. A combination of triangular impressions, lines and dots are present on and around the rim, and in the inner surface at the union between rim and body they generally present one or two parallel channelled lines around the vessel.
Form G: Plates. No decoration.
Form H: Everted wide rim and narrow necked vessels. No decoration.

Decorations, Occupation I, Capurganá (Bedoya and Naranjo 1985:131-136).
Fine incised, crossed hachured incised, simple incised, engraved incised, crossed incised, irregular incised, curved incised, wide incised, dotting, brushing, cuneiform, zoned dented, slight wrinkling, chanelled modeled, impressed application, raked channeling? (Ranurada Rastrillada) and polychrome decoration.

Decorations, Occupation II, Estorbo (Bedoya and Naranjo 1985:137).
Modelled incised

Bedoya and Naranjo's Interpretation

They both think that the cut at Capurganá represented a habitation area. They say that the two distinct cultural occupations are evidenced in their ceramics and in their spatial and temporal coordinates. Both ceramic groups were very defined, and they show an on site distribution that demonstrates that both occupations were established on different areas.

According to the similarity with the El Estorbo complex for the second occupation, both may be assumed to be contemporary, that is around 1000 BP. Notwithstanding the same technological and stylistic features, and the similar pattern of settlement, there are differences in that the pottery from the second occupation at Capurganá and the surrounding area is less refined than that found on the eastern margin of the Gulf. And there are also regional and local differences regarding shapes and decorations, even though they belong to the same cultural pattern (Bedoya and Naranjo 1985:156). The description of the pottery of the second occupation sounds identical to that of Incised Relief Brown Ware, thus, the chronological location of this second period would lie around the AD 400 – 750 date, rather than the AD 950 thought earlier.

Gustavo Santos says that the Type P rims defined by Reichel-Dolmatoff are present in the lower Sinú, and their distribution makes them one of the most representative shapes in the ceramic group of the Urabá Region (Santos 1982:11). The earlier Capurganá occupation may be contemporary with Period I and the beginnings of period II at Momil (in the Lower Sinú). There, two dates were obtained for period I: level 10 dated to 2150 +- 60 BP = 200 bc.; and level 11 dated to 2125 +- 35 BP = 175 bc. This suggestion of contemporaneity between occupation I at Capurganá and Momil is due to the similarity observed in motifs and decorative technique. The best found was Form 6 and the plane plates from Momil (Bedoya and Naranjo 1985:154-159). Polychromy also shows marked similarity between both sites. Momil presents a combination of red and black over a white background, or a light red slip. There are some elements at Momil that are identifiable with cultures of formative type. Common elements that characterise this epoch are, among others: incised decoration with simple and varied motifs, cuneiform decoration

achieved with a rocking seal, experimental painting, and zoned decoration (Bedoya and Naranjo 1985:160-162).

Surface collected data from surveys conducted in north-western Atlantic Colombia, from the Sinú river westward to Panamá, suggest that very similar pottery was made in the period AD 900-Conquest (Estorbo) along the Panamanian San Blas coast to the vicinity of Acla, down to Capurganá (Bedoya y Naranjo 1985) and the Gulf of Urabá (Cooke 1998a:100). In Cooke's opinion, some of the incised modes are significantly similar to those present in sherd samples from the three Panamanian sites of Isla Carranza, Búcaro (Azuero Peninsula) and La Mula-Sarigua (Cooke and Ranere 1992:Fig. 8). These sherds are associated with five dates whose intercept range is cal 35 BC – AD 140 (Cooke 1995) and he believes that Capurganá I represents the same time period. Sherds illustrated by Linné (1929: figure 10) labelled Triganá may be coeval. He sees nothing comparable to Capurganá I at Cupica.

Operations Drake and Raleigh

A survey of sites on the Atlantic coast of the Kuna Yala reservation was undertaken in 1979, called Operation Drake, and in 1985, when it was named Operation Raleigh. They excavated mainly at Acla (also known as Aglatomate Bay) and at the site of the short-lived Scottish colony of New Caledonia, also called Puerto Escocés (Horton 1980; Higgins 1986). Most of the material recovered by both expeditions consisted of Precolumbian pottery, very similar to that found all over the Eastern Region.

Summary

There is then evidence for similar pottery types covering the Entire Eastern Region, since at least AD 1, from the Cueva language frontier in Chame, down the Pacific Coast all the way to Cupica, and down the Atlantic Coast to the vicinity of the Gulf of Urabá, where the presence of Panamanian pottery types is lesser, giving way to pottery brought in from regions further east in Colombia, possibly belonging to types such as those seen in the Tierra Alta phase of the Sinú Region. In fact, Colombian types are present in Panamá in the Atlantic Coast all the way up to the Kuna Yala region. Of course, much more research is needed to work out the up to now tenuous chronological location of all the types in the Eastern Region and their correlation to each other. This dissertation would also like to point out that not only is further research need, but also to think more carefully about how archaeologists think about, look at, analyse and interpret the evidence.

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